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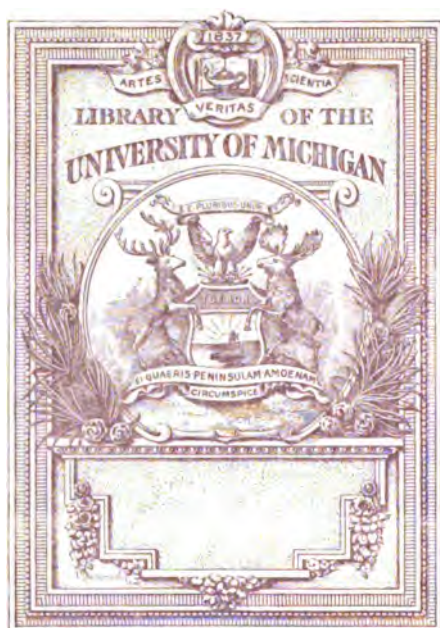
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THE
NEW-YORK
JOURNAL OF MEDICINE,
AND THE
COLLATERAL SCIENCES.

EDITED BY
S. S. PURPLE, M. D.

Verumque est, ad ipsam curandi rationem nihil plus conferre,
quam experientiam.—Celsus.



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DR CARNOCHAN'S CASE OF AMPUTATION OF THE ENTIRE LOWER JAW.

THE LOWER JAW—AFTER MACERATION.

N^o 1.



DANIELS DEL. AD. 1841

Lith & Printed in Colors by Sarony & Mayne, N.Y.

- a* Condyles of the jaw
- b* Rami of the jaw—diseased
- c* Body of the jaw in a State of necrosis, and seen as Separated during the Operation.



FROM A PHOTOGRAPH BY F. HARRIS.

Lith. at S. & B. Rogers, New York.

Upon the side of the face, the cicatrix is seen, shewing the line of the external incision; a similar incision made upon the opposite side, meets the other at the Chin.

DR CARNOCHAN'S CASE OF AMPUTATION OF THE ENTIRE LOWER JAW .

THE LOWER JAW—AFTER MACERATION .

Nº 1.



DANIELS DEL. &C. WAT.

Lith & Printed in Color by Sarony & Major, N York

a. Condyles of the jaw

b. Rami of the jaw—diseased

c. Body of the jaw in a State of necrosis, and seen as Separated during the Operation.

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APPEARANCE OF THE PATIENT FOUR MONTHS AFTER THE OPERATION.

Nº 2



FROM A DRAWING BY F. HARRIS.

Lith. of S. S. & B. N. Y. N. Y.

Upon the side of the face, the cicatrix is seen, shewing the line of the external incision; a similar incision made upon the opposite side, meets the other at the Chin.

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THE NEW-YORK
JOURNAL OF MEDICINE,
FOR JANUARY, 1852.

PART FIRST.

ORIGINAL COMMUNICATIONS.

ART. I. *Amputation of the entire Lower Jaw, with disarticulation of both Condyles.* By J. M. CARNOCHAN, M. D., Professor of the Principles and Operations of Surgery in the New-York Medical College, Chief Surgeon to the New-York Emigrants' Hospital, &c., [with Plates.]

NOTWITHSTANDING the repeated instances on record of large portions of the lower jaw having been lost by accident or disease, surgeons appear to have been slow in admitting the possibility of practising amputation, either partial or total, of this bone. To Dupuytren was reserved the glory of having, in 1812, first removed, by a methodical operation, a portion of the body of the inferior maxilla; but since the innovation of the celebrated French surgeon, the operation for the partial exsection of this bone has been repeatedly performed. In the annals of surgery, there is an *allusion* made to the amputation of the *entire* lower jaw, by Walther, of Bonn; but I have not been able to trace the truth of it to an official source.

The following case will prove that this operation can be performed with success; and that the patient, although de-

prived of the chief instrument of mastication, may survive, and enjoy the usual condition of health.

Nicholas Donegan, aged 43, a farmer by occupation, was admitted into the New-York Emigrants' Hospital, March 7th, 1851. He was treated for some weeks, in the Medical Division, for typhus fever, and was afterwards transferred to the Surgical Department, under my charge. Upon examination of the patient, his face presented much tumefaction, and he complained of great pain, seated chiefly in the region occupied by the inferior maxilla. Upon carrying the examination further, the lower jaw was found to be extensively affected with necrosis. All the external appearances denoting a cachectic condition of the constitution, with extreme debility and general prostration of the vital functions, were present. The patient stated that, during his recent voyage to this country, he had received a severe blow upon the lower jaw and side of the face. This circumstance, coupled with the cachectic condition following the attack of fever, appears, as far as can be learned, to have been the origin of the disease of the bone.

A tonic course of treatment was prescribed for him, and various local applications and lotions were resorted to, in order to allay the irritation in the mouth, and abate the fetor emanating from the disease. In a short time, the teeth became loose, and had to be extracted; the alveolar ridge became partially denuded; the swelling increased towards and over the rami and condyles; and the patient complained of excruciating suffering and depression. Nutritious diet and the various therapeutic agents, proper to improve and renovate his system, were persevered in; and soothing and astringent lotions and applications were unremittingly used. This plan of treatment was pursued for about three months; at the expiration of which time, it became evident that the disease of the osseous tissue was too deeply rooted to be affected by mere remedial agents. In fact, they were found to be entirely unavailing. The disease had now apparently seized upon the entire jaw; pus was abundantly secreted into the cavity of the mouth; the saliva was also thrown out in great quantity; and the fetor became almost intolerable to the patient himself,

and to those around him in the ward. Constitutional irritation and hectic of a grave character had also set in; diarrhoea made its attack; and the patient was gradually sinking under the complications of his disease, and the terrific pain by which he was unceasingly tortured. It was apparent to me that the speedy death of the patient could only be avoided by removing the source of such intense suffering and constitutional derangement. The integuments over the disease, although much tumified, œdematous, tense and red, remained free from ulceration; the vitiated secretions taking their exit by the cavity of the mouth.

On the 13th of July, a consultation was held, and an operation for the removal of the bone decided upon. The formidable nature of the operation proposed, together with the debilitated and cachectic condition of the patient, induced me to enter into full explanations, and to inform him of the great risk that would attend it. The matter was then left to himself, and at his urgent request, I proceeded to use my efforts for his relief. It was not thought expedient to administer either chloroform or ether, on account of the liability to asphyxia from the passage of blood into the wind-pipe.

The patient being seated on a chair, and the assistants properly arranged, an incision was first made, commencing opposite the left condyle, passing downwards towards the angle of the jaw, ranging at about two lines in front of the posterior border of the ramus, and extending thence along the base of the jaw, to terminate by a slight curve on the mesial line, half an inch below the free margin of the lower lip. The bone was now partially laid bare, by dissecting upwards the tissues of the cheek, and by reflecting downwards, for a short distance, the lower edge of the incision. The tissues forming the floor of the mouth, and situated upon the inner surface of the body of the bone, were separated from their attachments from a point near the mesial line, as far back as the angle of the jaw. The attachments of the buccinator were next divided. The facial artery, the sub-mental and the sub-lingual; already cut, were then secured by ligature. It was now seen that the bone was partially separated at the symphysis, and that the necrosis was complete from that point to the inferior portion

of the ramus. The ramus itself was found diseased ; the periosteum externally was inflamed, and in some parts easily detached. The tongue was now grasped and held forwards, while the attachments of the genio-hyo-glossi muscles were divided. A double ligature was passed through the anterior part of the root of the tongue, and entrusted to an assistant, in order to prevent its retraction upon the superior orifice of the larynx. A fatal case from the falling backwards of the tongue, occurred a few years ago, in the practice of an eminent surgeon of this city ; and a similar misfortune should always be guarded against, when the muscular attachments of the tongue to the posterior part of the bone behind the symphysis are divided. A slight force exercised upon the left half of the body of the jaw, broke the connection at the symphysis and at the angle, and this part was easily removed. The next step consisted in the removal of the left ramus. The external surface of the branch of the jaw, and of the temporo-maxillary articulation were exposed, by dissecting the masseter upwards, as far as the zygomatic arch. Seizing the ramus in order to pull the coronoid process downwards below the zygoma, it was found that the temporal muscle was rigidly and permanently retracted. This circumstance presented an unexpected difficulty, which was increased by the unusual development of this apophysis, and by the retraction also of the pterygoid muscles. Passing the forefinger along the inner aspect of the ramus, the situation of the internal and external carotids was sought for and recognised. The insertion of the pterygoideus internus was then felt and cut, grazing the bone in doing so ; the lingual nerve, here in close proximity, being carefully avoided. Passing still higher up, the orifice of the dental canal, indicated by an osseous projection, could be felt ; and the instrument, still guided by the finger, divided the dental artery and nerve. The knife was thus made to separate the tissues attached to the inner face of the bone, as high up as a point situated about a line below the sigmoid notch, between the condyle and the coronoid process. On a level with this point, at the posterior margin of the ramus, the transverse facial, internal maxillary and temporal arteries

form a kind of tripod, the two last named branches of which should not be divided, if possible. It now became necessary to detach the tendon of the temporal muscle. As the coronoid process could not be depressed, I proceeded cautiously, by dividing the lower attachments of the tendon, by means of blunt curved scissors; and by using them and a probe-pointed bistoury, alternately—keeping close to the bone—a considerable portion of the tendon was divided. Deeming it not prudent to use freely a sharp cutting instrument, deep in the temporal fossa, where the coronoid process was situated, I made use of a pair of bone scissors, curved flatwise; and by passing the blades of this instrument over the process, as far as its position would permit, the temporal muscle was detached; a small portion of the apex of the coronoid process being cut through. The ramus, now movable, could be made use of as a lever to aid in the disarticulation of the bone.

In order to effect safely the disarticulation of the condyle, I began by penetrating into the joint, by cutting the ligaments from *before backwards*, and from *without inwards*. The articulation was thus opened sufficiently to allow the condyle to be completely luxated. Blunt scissors were now used to cut carefully the internal part of the capsule and the maxillary insertion of the external pterygoid muscle; and by a slow movement of rotation of the ramus upon its axis, the condyle was detached, and the operation was completed on this side. By proceeding to disarticulate by the method here described, injury to the temporal artery, as well as to the internal maxillary, was avoided.

To effect the removal of the other half of the lower jaw, the same incision was made on the opposite side, so as to meet the first on the mesial line. The dissection was also similar; and by disarticulating the second condyle in the same manner as had been observed for the first, I was successful again in avoiding lesion of the temporal and internal maxillary arteries.

The annexed plate, No. 1, is a correct delineation of the inferior maxilla, after maceration, and exhibits the portions of the bone as they became separated during the operation.

The object I had in view, in shaping the external incisions,

in such a way that an inverted V should be formed in front of the insertion of the genio-hyo-glossi muscles, was to leave a portion of integument so fashioned, that the suture-pins could be passed through the integument, and, at the same time, through the root of the tongue, at the point where its muscles had been detached from the inner surface of the jaw. The several tissues becoming thus incorporated in the resulting cicatrix, served to form a new bridle, somewhat analogous to the natural muscular attachments of the tongue to the genial processes.

The amount of blood lost was inconsiderable; the arteries divided, besides those mentioned, were the transverse facial, the anterior masseteric, the anterior parotidean, &c. ; and these were secured as soon as divided. The bone being disarticulated, the flaps were adjusted, and the lips of the incision united, by eighteen points of twisted suture. The tongue was retained forwards after the dressing, by attaching the ends of the ligature already passed through its base, on each side, to a bandage passed vertically around the head. Forty-eight hours after the operation, the first dressing was removed. Union by first intention had taken place, and eight of the suture-pins were taken out. In ninety-six hours, the wound was again examined. Union was found to be entirely completed, and the remaining pins were removed. On the seventh day, it was thought safe to remove the ligature from the tongue. On the tenth day, the arterial ligatures came away; and on the fourteenth day, the patient was pronounced cured; not having had an untoward symptom since the performance of the operation.

The operation occupied fifty-five minutes, the patient having been allowed intervals of repose to recruit. It was performed in the presence of a number of professional gentlemen; and I was ably assisted by my colleague, Dr. A. V. Williams, by Drs. Dewees and Dixon, of New-York, and by Drs. Thompson, Whitehead, Smith and Bailey, resident assistants attached to the surgical staff of the Hospital.

The present appearance of the patient, upon reference to the accompanying plate, No. 2, will be seen to present much less deformity than might be expected from the severe muti-

lation which he has undergone. His general condition and health are good; and he is now able to perform any ordinary vocation. The ducts of Steno, on both sides, were necessarily divided in the superficial incisions; but there is no salivary fistula, the saliva taking its course into the mouth. The division of the branches of the facial nerve has not been followed by paralysis of the face; although for a time after the reunion of the incision, the orbicularis palpebrarum of the right side appeared to have lost its action to some extent. In grasping the chin, a thin cartilaginous deposit can now be felt, extending, crescent-shaped, for about three inches, and occupying the position at which the bone was most diseased. Higher up, toward the glenoid cavity, no deposition of bone or cartilage has taken place. Injury to the bag of the pharynx, during the detachment of the soft tissues from the angle of the jaw, was carefully avoided, and fluids could be swallowed, in small quantities, immediately after the operation. Deglutition is now effected without difficulty. Articulation is sufficiently distinct to render his words intelligible, and although unable to masticate, he does not complain of difficulty in eating, breaking up, as he says he does, his food between the tongue and the palatal vault of the superior maxillæ.

New-York, 759 Broadway, Dec. 1851.

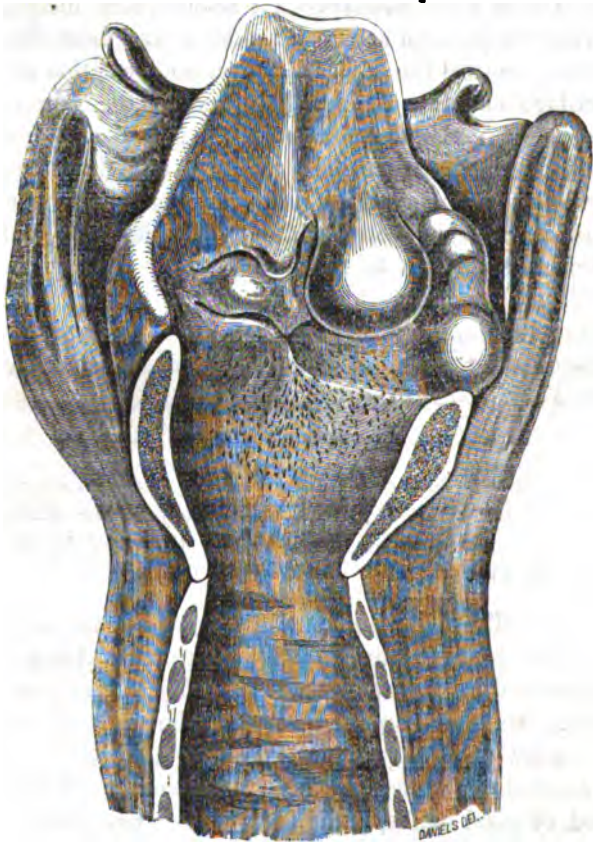
ART. II.—*Cases in Surgery. Polypus Laryngis, with illustrations.*

By W. PARKER, M. D., Prof. of Surgery in the College of Physicians and Surgeons, New-York. Reported by STEPHEN SMITH, M. D.

Case 1st.—The following case of polypus of the larynx, to which I was hastily summoned in consultation, August 28th, 1850, occurred in the practice of Dr. Cullen, a highly respectable practitioner of Brooklyn, L. I. The patient, however, expired a few minutes previously to my reaching the house.

J. D., aged 60, weaver by occupation, native of England, married, of good habits, and healthy parentage, had a severe attack of inflammation of the lungs fifteen years since, which it was thought he could not survive: he however at length recovered, and pursued his trade until six years ago, when he

came to America. In this country he was engaged in an establishment where, most of the time, he was enveloped in steam. While in this situation, he contracted a severe cold, accompanied by a hoarseness, which continued gradually increasing in severity up to the time of his death. Succeeding this, he began to suffer difficulty of respiration, and often when the weather was cold and damp the dyspnoea would be so great as to threaten immediate suffocation. For a time his general health continued good, but as the disease advanced, deglutition began to be attended with much uneasiness about



the larynx, amounting often to threatened suffocation, and finally prevented him from swallowing any thing but soft or

semi-fluid food. He now began to emaciate. On the day of his death, he was able to walk about his room, but he remarked to his wife that he could not live long. He died suddenly, and as if with œdema glottidis.

Autopsy, sixteen hours after death. Both lungs free from adhesions, but distended with air, owing to the great degree of emphysema which existed: no tubercles were discovered. The trachea and larynx were removed, and upon laying them open, the *causa mortis* was revealed, viz., a polypus attached by a pedicle to the right superior chorda vocalis; the body being of the size of a chestnut, and occupying the rima glottidis. The cartilages of the larynx were ossified. No other signs of disease in the thoracic or abdominal cavities.

This polypus was of the kind called mucous polypus. A portion of the apex of the right lung, of the size of an orange, was removed after being firmly ligatured; this, when dried, was incised, and exhibited in a striking manner the degree of emphysema existing, many of the vesicles being of the size of a filbert.

Case 2d.—M. B., a boy aged 2 years, of good constitution, and hitherto having enjoyed good health, was brought to the *college clinique* by his mother, who gave the following history of his case:—About eight months previously he had an attack of croup, from which he never seemed to recover. His voice became hoarse, his breathing, always obstructed, at times became very difficult and almost suffocating, attended by a croupal cough; appetite good, bowels regular. The case was placed in charge of Mr. Osborne, now a physician of this city, who administered remedies suited to his condition. The symptoms increased in severity, especially the dyspnœa, and tracheotomy was finally thought to be indicated. It was not, however, performed, and the patient died in a paroxysm of dyspnœa nine months after his first attack.

Autopsy, 12 hours after death. Examination confined to the larynx. Upon laying this organ open, after being removed from the body, three warty excrescences were found surrounding the glottis and in the larynx, the former being so situated as nearly to close the rima. The trachea contained

considerable tenacious mucus, which, lodging in the glottis, must have greatly increased the difficulty of respiration.



The drawings represent very accurately these morbid specimens, as they appeared after recent dissection.

Remarks.—Morbid growths within the larynx, of which the foregoing cases are striking examples, are of rare and almost necessarily fatal occurrence. Aside from the obscurity of the symptoms which attend their growth, rendering their diagnosis at best difficult, and generally impossible, they are little amenable to any form of treatment. The first case is that of true pediculated polypus of the larynx, while the second is more nearly allied to warty excrescence; they are, however, classified together by the only writer who has made this disease the subject of investigation, (Ehrman.)

The following cases have been collected from American journals, and constitute, as nearly as we can ascertain from an extended examination, our bibliography on this subject. In the *Trans. of the Physico-Medical Soc. of New-York*, vol. i. p. 413, a case of "Remarkable Disease of the Larynx and Tra-

chea," illustrated by a plate, is reported by Dr. J. C. Cheesman, of which the following is a synopsis :

Richards, aged four years, in April, 1817, was found laboring under great difficulty of breathing; tongue slightly furred, pulse full, but neither frequent nor hard; bowels regular, skin cool and a little moist, some cough, but not tight. From his mother's account, it appeared that he had been troubled with difficulty of breathing for six or eight weeks, which was thought to resemble asthma; and that a high fever had accompanied its first attack. There was a difficulty in ascertaining the precise nature of the disease, but the little patient pointed out its seat by applying its hand frequently to the upper part of the throat. On the third and last visit, the child was breathing with extreme difficulty, but without the peculiar croaking which is so usual in *cynanche trachealis*. The pulse was very feeble; considerable stupor existed, and when he was roused there was a peculiar staring of his eyes. Five hours after this visit he died.

Autopsy.—We directed our attention in the dissection to the parts about the throat; all appeared to be perfectly natural except the larynx and trachea, which had taken on a disposition to the formation of *verrucae*, or fleshy excrescences very much resembling them. The under surface of the epiglottis was studded with this peculiar disease, and a cluster about the size of a pea had formed about one inch and a half from the opening of the larynx, but the most considerable portion of disease was immediately connected with the arytenoid cartilages, and of such magnitude as very nearly to close the *rima laryngis*.

A case of polypus attached to the epiglottis was reported by Dr. H. Green, to the *New-York Med. and Surg. Soc.* (*New-York Jour. Med.*, vol. vi. p. 22.) "The patient was a girl, aged nine years, had been brought to him, as was supposed, with enlarged tonsils. The symptoms attendant upon the case were difficulty of breathing, and more particularly at night. On examination, he found that the tonsils were not sufficiently enlarged to require removal. But extending his observation and pressing down the base of the tongue, a tumor, hanging by a pedicle, was discovered about the size of a grape,

and appeared to be attached to the epiglottis. The pedicle was cut with a scissors, and the tumor, which was a fibrous polypus, was removed."

The following case of "Tumor within the Larynx," is taken from *Morland's Extracts from the Bost. Soc. for Med. Improvement*. (*Amer. Jour. Med. Sci.* July, 1851, p. 37.) The patient was a man about fifty years of age, very fleshy, and in robust health, except for the trouble in the throat. For twelve years or more there had been hoarseness, with wheezing, and for the last two or three years complete aphonia; there was also much dyspnœa on over-exertion, and, when asleep, a distressing noise as from impending suffocation. His death at last was rather sudden, and seemed owing to congestion of the lungs. The tumor is about seven lines in diameter, well defined, of a rounded form, rough on the surface like a syphilitic wart, fleshy in consistence, and having a somewhat fibro-cellular appearance on incision. Its situation is just below the ventricles of the larynx posteriorly, and it is attached upon each side broadly, and to about an equal extent, the intermediate portion being free. The following microscopic appearances were observed by Dr. W. J. Burnett: "The primitive original basis of this formation supposed to be an epithelial structure. Pavement epithelial cells of various ages were everywhere plentifully present, being folded in by fibrous tissue, which as an hypertrophy of that normally belonging to the part, is always liable to accompany the abnormal production of simple individual cell-structures forming the material basis on which the latter rest."

From these scanty materials it is impossible to draw any general conclusions. Prof. Ehrman, of Strasbourg, whose attention was called to this subject from having had two cases under his own observation, has collected the reports of all the well-authenticated cases of this affection which he has found on record, amounting, in all, to thirty-six—five of which occurred in animals. From his work,* and other sources, we gather the following particulars:

* *Musée d'Anatomie de la Faculté de Médecine de Strasbourg. Histoire des Polypes du Larynx*. Par C. H. Ehrman, Professeur à la Faculté

Polypus of the larynx is more frequent in the adult than in the child, and in the male than in the female. Of 24 cases in which the age is given, 17 occurred in the adult, and 7 in the child; and of 29 in which the sex is given, 21 were in males, and 8 in females. No particular condition of system would seem to predispose to this affection. In 4 cases it was engrafted upon phthisis pulmonalis; in 3, upon syphilis; in 2, upon a scrofulous habit; in 1, upon a cancerous degeneration of the lungs, liver and thyroid body; of the remainder no note is made of any constitutional difficulty.

With respect to the *origin* of laryngeal polypi, nothing definitely can be determined; but they probably spring from the same local causes as similar growths elsewhere. In several cases, the larynx had previously been the seat of acute, and subsequently, of chronic inflammation, which would seem to have terminated in these morbid growths. Such is the history of the second case in this paper. Two others, of a similar character, are reported in M. Ehrman's work, (*Obs.* 7 and 17,) in all of which the first attack was that of croup, and, following it, the symptoms of polypus were gradually developed. Dr. Watson records the case of a boy, aged eleven, whose first attack was whooping-cough, hoarseness, difficult respiration, and loss of voice followed, and he died several months after, in a paroxysm of dyspnoea. On examining the body, there was found, "at the very top of the larynx, involving the base of the epiglottis and the vocal chords, a considerable warty growth, closing the rima glottidis almost entirely. The excrescences sprung *chiefly* from one continuous base, and branched out precisely after the manner of what is regularly called a seedy wart. There were, however, several distinct smaller growths or warts; the main excrescence, having several heads, passed upwards from and through the rima, and so came to act partly as a valve during inspiration, which was always sensibly more difficult than expiration."*

Siemon Dawosky, who reported to *Hufeland's Journal* the

de Médecine de Strasbourg, &c. Strasbourg, 1850. See *Review, Amer. Jour. Med. Sci.* April, 1851, p. 410.

* *Lect. on Practice of Physic*, Am. ed. p. 451.

case contained in Observation 17, of Ehrman's work, remarks:—I regard it important to notice these repeated attacks of croup, for I am persuaded that it is to this disposition, and the frequent return of this complaint, that we must attribute the development and unfortunate issue of the affection to which this child at last succumbed.

In four cases the patients, as already stated, were affected with phthisis pulmonalis, and others were exposed by occupation to vicissitudes of weather, and suffered from repeated attacks of catarrhal affections. But it is impossible, with the paucity of facts in our possession, to determine, with any degree of certainty, the influence of inflammation in exciting these peculiar growths; nor is it yet established in the pathology of polypi in other parts of the system, that inflammation is essential to their primitive formation.

In several cases these growths have resembled a cauliflower, and are then ascribed by M. Rayer to a *syphilitic* taint. This author met with such an instance* in a female, fifty years of age. A cauliflower excrescence was attached near the superior border of the left ventricle of the larynx, and expanded above the orifice of the glottis. It was attended with a suffocative dyspnoea, and a peculiar whistling sound of the air in the larynx, especially during inspiration. This latter was well marked when the stethoscope was applied over the larynx. It was detected during life by M. Roux, upon examination with the finger. M. Ferrus has related a case† in which the glottis was obstructed by a tumor, of the size of an almond, adhering by a broad base to the left ventricle; its surface was irregular and mammillated, but of the ordinary color of the mucous membrane of the larynx. Andral‡ cites a case, in which the superior aperture of the larynx was almost completely obstructed by a whitish cauliflower vegetation, which was evidently continuous by a broad basis with the mucous membrane. He however considers these bodies

* *Maladies de la Peau*, tome ii. p. 422. *Et Atlas*, pl. xv. fig. 21.

† *Archives Générales*, tre series, t. v. p. 559.

‡ *Anatomie Pathol.* t. ii. p. 472.

merely forms of circumscribed hypertrophy of the mucous membrane.

Under the head of *Pathological Anatomy, Histology*, M. Ehrman observes :—The form and structure of polypous tumors are variable ; they are sometimes roundish, often of an irregular shape, united in clusters, granulated, lobulated, most frequently pediculated ; they sometimes have the appearance of condylomata. Their attachments, whether broad or slender, single or multiple, are rarely traversed by blood-vessels of any considerable size. They may occupy all parts of the internal surface of the larynx, but we find them attached by preference about the glottis, especially to the inferior vocal ligaments ; more rarely they are found in the substance of the aryteno-epiglottic ligaments, and in the ventricles of Morgagni. The epiglottis is especially the seat of the supposed syphilitic vegetations. .

Polypus of the larynx is constituted sometimes of fibrous or fibro-cellular tissue ; and in other cases of all the elements of the mucous membrane united, but modified in character. When the tumor belongs to the first class, it assumes the form of a firm and compact mass, resembling that which exists in the proper fibrous tumors ; in this respect, the tissue composing this species of polypus may be compared to that of the ligaments of the glottis, or to that which is found in their immediate vicinity ; thus we see the pedicles of these tumors originating in the fibrous appendages, and blending with the fibrous element of the vocal cords, an observation which has been already made by Albers. The tissue composing these tumors is traversed by very minute blood-vessels, and their external investment consists of a thin layer of the mucous membrane, modified in its structure. The microscopic appearances of a polypous tumor of this kind were the following : the superficial layer consisted of conical, nucleated corpuscles, which, united together, formed a kind of mosaic ; some of these cells were furnished with very fine vibratory cilia. Beneath this first layer, and forming the principal part of the tumor, were found fusiform bodies, in different degrees of development, with rounded central nuclei ; these were

evidently the elements of a proper fibrous tissue ; the last and deepest layer was composed of very delicate cell-fibres.

In respect to the second class of tumors, or those consisting of the modified elements of mucous membrane, after giving a histological analysis of their structure, he concludes : It is probable, then, as the result of these data, that hypertrophy of the mucous membrane involves especially its epithelial layer, since it is this which we find in superabundance in the mass which forms this variety of tumor ; the areolar tissue, which is met with in it, belongs, as is well known, to the structure of all the mucous membranes ; and if some fibrous tissue should occasionally be found at the base of these vegetations, it is as if for the purpose of forming a transition between the true mucous polypus and the fibrous. M. Lebert, who has devoted particular attention to the study of tumors of the mucous membranes, would substitute for the term *polypi*, as applied to this latter class, the title of excrescences, or hypertrophies of the mucous tissue, of which he distinguishes three forms : 1st, of the epithelium, 2d, of a circumscribed portion of the mucous membrane, and 3d, of a portion of the submucous cellular tissue ; with this opinion M. Ehrman coincides.

The *lungs* are the only organs that exhibit any very constant lesion, and they are generally emphysematous ; this condition results from the severe and prolonged efforts at respiration. It may be interesting to notice that of five cases in children in whom the first symptoms were those of croup, in four the growth within the larynx had the warty appearance.

"The symptoms indicative of the existence of polypus of the larynx," says Ryland, "are too vague and undefined to enable us to lay down any positive rules of diagnosis. They appear to be an alteration or extinction of the voice ; occasional attacks of dyspnoea, with alarming suffocative seizures, in the intervals, between which the respiration is perfectly free ; a sense of uneasiness and of constriction about the laryngeal region, and slight difficulty of deglutition. In some of the cases, one only of these symptoms was present ; in others, all or nearly all of them, were experienced in a greater

or less degree; the most constant, however, were the occasional dyspnoea, and the suffocative attacks." In a case observed by Gérardin, the first symptom was a sudden and inexplicable loss of the voice, which was not followed by cough or dyspnoea until several months after, nor by death until the expiration of two years. In the second case above reported, as also in Dr. Cheesman's, the primary symptoms were more nearly those of croup. M. Ehrman records similar cases. From this latter author we learn that *hoarseness and loss of voice* are the most constant symptoms, the former indicating some change in the mucous membrane of the vocal cords, and the latter a more advanced affection of the edges of the glottis. *Cough* is generally present, but has no particular diagnostic value, as it is a common symptom in diseases of the lungs. The *sensation of a foreign body* in the larynx in efforts at expectoration or deglutition, occurs in an advanced stage of the disease; in the case that heads this article the patient was for some time previous to death unable to swallow solid food. *Dyspnoea* is a constant symptom, commencing insensibly, and gradually increasing in severity, or appearing suddenly, and threatening immediate suffocation.

In the *diagnosis* of this complaint the *expectoration*, when it contains masses of the broken down polypus tissue, becomes pathognomonic, but otherwise is of no value. As this is a sign of importance as well as of rare occurrence, we will illustrate it with several cases.

In a case reported by Otto, (*Ehrman, Op. Cit. Obs. 7.*) a man, aged 65, otherwise healthy, was affected several years with a hoarseness, which he attributed to a cold, and from which he gradually lost his voice. He rarely coughed, had no pain about the larynx, but experienced a disagreeable sensation as of a foreign body, closing the larynx whenever he swallowed solid substances or expectorated mucus. A physician administered external and internal remedies suited to his case; several days after which, in a paroxysm of coughing,

* *Treatise on the Diseases and Injuries of the Larynx. By F. Ryland. London, 1837, p. 229.*

† *Ehrman, Op. Cit. p. 16.*

he ejected a small *globular, fleshy, red and solid mass*, of the size of a currant, and two days after, a *similar substance* of the volume of a small cherry; following this the voice and facility of respiration were restored. Several weeks later, the patient expectorated, for the third time, a *fleshy mass* of the size of a pea, having a very slender pedicle. The roughness of the voice and dyspnoea, however, quickly returned; the latter to such a degree that the abdominal muscles became very painful, owing to their violent contraction during respiration. A slight cough would sometimes cause the expulsion of a very viscid and tenacious matter, occasionally mixed with blood. The powers of the system gradually declined, and the sufferer died of a *slow suffocation*.

The larynx was found almost entirely ossified, and the epiglottis loaded with fat. A *fleshy and nodulated tumor* of large size was suspended from the inferior vocal ligament of each side, springing from slender pedicles, surrounded by fibrous appendages; it was consequently movable, and was formed by the union of three excrescences, each being of the size of a hazelnut; they were of a rounded form, irregular surface, very firm, elastic, and of a pale red color. One of them, situated above the glottis, was unable, from its size, to enter it; but the other two placed below this opening, closed it so completely during expiration, that suffocation must inevitably follow.

M. Stallard* has recorded the case of a woman who presented the symptoms of bronchitis, with a cough and intense dyspnoea. She died suddenly, in a *paroxysm of coughing*; and on post mortem examination, a *polypous mass*, as large as an almond, and having a pedicle nearly three-fourths of an inch in length, was found detached in the trachea. This tumor had its origin in the trachea, instead of in the larynx. Death occurred, doubtless, from the inability of the patient to expel the mass through the glottis. A case somewhat similar to the last, but having a more favorable termination, has been recently reported by Dr. Pauli.† A tailor, 36 years of age,

* *Gaz. Medicale de Paris*, 1844, p. 385, et Ehrman, *Op. Cit.*, Obs. 28.

† *Medicinisches Correspondenz. Blatt*, et *Gaz. Med. de Paris*. Jan. 4, 1851.

affected for two years with a dry cough, accompanied with very marked emaciation, and complaining continually of a foreign body in his throat, was supposed to be affected with phthisis. One morning, in a violent paroxysm of coughing, he threw up a vascular polypus the length of half a finger, and from this moment he began slowly to recover.

A female who came under the care of M. Ehrman, Obs. 29, and from whose larynx he successfully removed a polypus by an external incision, besides having this characteristic expectoration, was able, by a rapid movement of expiration and inspiration, to imitate the sound of a valve alternately opening and closing—*le bruit de soupape*. *Respiration* thus modified becomes strongly diagnostic. In regard to the *stethoscope*, M. Ehrman thinks it may furnish to the cultivated ear accurate notions of the presence of polypus in the larynx. Upon applying this instrument at different points over the larynx, it is probable that a sort of *whistling* would be heard, more especially during expiration.

The *treatment* of polypus of the larynx may be considered either palliative or radical, the former involving the operation of laryngotomy or tracheotomy, and the latter the removal of the growth by caustic or excision. Laryngotomy, as a palliative measure, has been performed three times—the patient in every instance being in danger of immediate suffocation, and the operator ignorant of the nature of the disease. The first was a patient of Trousseau and Belloc,* 1835. "The man was forty-two years old, and had enjoyed good health until about eighteen months before the operation was performed, during which time the polypus had been growing. The larynx was opened only when it was evident that the patient would otherwise die speedily of suffocation; some arterial and venous hemorrhage occurred when the incision was made, but this was arrested by slight compression. As soon as the canula was introduced into the opening, the patient's breathing was relieved, and he continued to do well during the five following days; but then an attack of gangrenous pleuropneumonia came on, of which he died in the course of twenty-

* *Ehrman, Op. Cit., Obs. 18, 26, 31. Rev. Am. Jour. Med. Sci., Op. Cit.*

four hours." The second was in a case by Gluge. The patient, a female, forty years of age, had suffered dyspnoea and loss of voice several years; the enlargement of the larynx was thought to indicate some organic disease. Laryngotomy was performed, but the patient died soon after the operation. The third case is from Bertherand, of the Strasbourg Military Hospital, who performed tracheotomy on a Polish officer while suffering a paroxysm of dyspnoea from polypus laryngis. He did not experience much relief until some hours after the larynx had been opened, and the canula introduced. He died on the ninth day of bronchitis and pneumonia, accompanied with the formation of small abscesses in the lungs and liver.

In 1834, M. Brauers opened the larynx of a man suffering from this affection, and cauterized the excrescences which filled its cavity with the acid nitrate of mercury; but instead of destroying them, they seemed to spring up with increased vigor, "always in direct ratio to the number of cauterizations." He finally applied the actual cautery, which at first caused an inflammatory engorgement posterior to the larynx, and subsequently, by its repeated application, induration of the larynx itself; the patient, though living at the date of the report, was not expected to survive.

In 1844, M. Ehrman performed the operation of laryngo-tracheotomy, excised the polypous tumor, and saved his patient's life. The subject of this case was a female, thirty-three years of age, who exhibited the most diagnostic symptoms of polypus of the larynx, such as the expectoration of fleshy masses, the sensation of a foreign body in the larynx, the peculiar valve-like sound in respiration, &c. The incision included the cricoid cartilage, and the first two rings of the trachea; but very little blood flowed, and upon the introduction of the canula, complete relief followed. After allowing the patient to rest forty-eight hours, and recover from her depression, he proceeded to complete the operation of laryngotomy and remove the tumor. The canula being retained in the wound, he continued his incision along the prominent line of the thyroid cartilage towards the hyoid bone. Upon separating the thyroid cartilage, and removing the blood, the polypous excrescence was discovered, attached to the left inferior ligament of the glottis; the mass was then

excised with a bistoury, and removed in three portions, the whole having the appearance of a cauliflower. The patient convalesced rapidly. On the twenty-first day the air ceased to pass through the external opening, and at the end of the month she was quite well and the wound healed, the aphonia alone persisting. But at the end of seven months she was attacked with typhoid fever, of which she died. On examining the larynx the left inferior vocal ligament to which the polypus was attached, presented a few very small granulations upon its surface, and one rather larger than the rest was situated at the point of junction of the two inferior vocal ligaments.

The last operation for this affection which we are able to notice, was performed in 1846, by Dr. Green, of this city; the details of this case have already been given.

In reviewing this subject we conclude that polypus of the larynx presents the most decided indications for the performance of bronchotomy. The disease is entirely local, and involves no constant local or general condition which can forbid the operation. If resorted to as a palliative measure, it would involve the necessity of the respiration being carried on afterwards through the artificial opening. But to M. Ehrman belongs the honor of having first effected a radical cure by ablation of the offending growth through an external incision; an operation which the illustrious Stromeyer, President of the Scientific Congress which assembled at Aix la Chapelle, in 1847, declared to be one of the most brilliant achievements in modern surgery. Much of the success in this case is attributed by the operator to the circumstance that the patient was allowed to recover from the depression of the first part of the operation before it was completed. We recommend this operation as indicated by the nature of the case, especially when the polypus has a pedicle, and by the success which has attended its first performance.

ART. III.—*A statistical account of the Fractures of the Skull, occurring in the New-York Hospital, during the twelve years elapsing between the first of January, 1839, and the first of April, 1851.*
By FREDERICK D. LENTE, M. D., late Resident Surgeon.

Of all the injuries which fall under the care of the surgeon, those of the head are the most perplexing, as regards their diag-

nosis and treatment. The uncertainty as to the exact nature and extent of the injury, whether it be merely a concussion of the brain, or a compression by extravasation, or a fracture; if extravasation, whether it be on this side of the head or that; if a fracture, whether it be of the calvarium or base; whether it be such as to admit of hope of relief by an operation;—all these doubts, and many more, often present themselves to the minds of the most experienced surgeon who may be called to this injury, and necessarily raise points of difference between those who may be summoned for a consultation, to their great annoyance and discredit. Should the fracture be a compound one, and no one can, in all cases, state positively whether there be a fracture, unless it is compound, the matter is much simplified; but, even then, the differences which may arise as to the propriety of an operation, as to the extent of the fracture or of the depression, may still be irreconcilable.

It may not appear a difficult matter to those who have derived most of their information concerning these injuries from the books, to decide these knotty points. The symptoms of each lesion are there so clearly laid down, and the rules of conduct applicable thereto so strictly enforced, that a doubt as to the diagnosis, or a hesitation as to their mode of treatment, would seem superfluous. But, unfortunately, when the practitioner has had opportunities of applying these rules to practice, he has perhaps seen, in the progress and termination of a number of successive cases, the exact converse of them to be true, and has, perhaps, arrived at the conclusion that the books are of very little service to him in an emergency, and that each case has its own history, and requires more of a clear and solid judgment than a brain full of established rules of conduct. It is not only in the beginning of a case, when the propriety of an operation is to be decided, that difficulties arise. They are even more perplexing and difficult to resolve during the after treatment, when inflammation, delirium, &c., are to be combated, or, if possible, prevented. It is here that incessant watchfulness, and a calm judgment, establish their superiority over "authorities," however high they may be. It is here that we sometimes have to approach the patient, to use the expression of an eminent surgeon, "with the lancet in one hand, and the brandy bottle in the other." For, while depletion may have appeared the only resource at one moment, prompt stimulation may be called for in the next; and thus the scale of life is balanced for days, and sometimes for weeks.

If any one should suppose that the annoyance and difficulty of these cases have been exaggerated, let him appeal to those who have seen the progress, and have had the responsibility of the treatment of not one, but many of them. We do not, by any means, intend to assert that authorities are to be entirely disregarded, or that their precepts are not useful to us; they serve as a foundation to build upon, or as a guide to follow, when our judgment is totally at fault, or as a screen to shield us when our best directed efforts have been fruitless. Authorities are, undoubtedly, valuable in all cases; only too much deference must not be paid to them in the minutiae of treatment. For, it is a fact well known, especially in medical experience, that every writer has had certain preconceived notions, and has at times advanced certain theories, to the support of which his subsequent experience, and his recorded facts have been, in some measure, moulded. From a consciousness of this fact, surgeons have, of late years, come to regard *statistics* as the best authority in points of difficulty and disagreement. These are, or ought to be, stern records of what actually occurred in each case, and just as it occurred; and, as such, they are valuable as a guide, provided they are sufficiently extensive to admit of general inferences. On some points in surgery, and with regard to certain injuries, statistics have already, and justly had their influence on surgical practice. But, in the important class of *injuries of the head*, little has been done in this way, and it is with a view of affording a small contribution to this branch of the subject, that we have compiled the following table. The difficulties in the way of compiling useful statistics of fractures of the skull are great. We should have the history of each case from the moment of the injury; we should have strict record of the condition of the patient previous to, and after the operation of trephining, of the important changes that take place from day to day, and of the *post mortem* appearances. We need not say that these difficulties have not been overcome in our present effort, as this will be apparent to the reader throughout the table; but, such as it is, we offer it to the medical public, in the hope that, as a page in the history of the injuries to which it relates, and in connection with the more profitable labours of others in the same field, it may not prove useless to the cause. It is complete as the means at our command, and the ability of the compiler would allow.

No.	Sex.	Age.	Occupation.	Date of Admission.	Date of Discharge.	Result.	Post mortem Appearance.
1	M.	19	Apprentice.	Feb. 8.	Feb. 8.	Died.	Fracture of base; laceration of brain.
2	M.	50	Carpenter.	Dec. 29.	Jan. 23.	Died.	Simple fracture extending to base; abscesses.
3	M.	38	Coachman.	Jan. 31.	Jan. 21.	Died.	Extravasation on right side. Fracture of base.
4	M.	18	Clerk.	Feb. 7.	Mar. 11.	Cured.	No autopsy obtained.
5	M.	45	Printer.	Feb. 27.	" 3.	Died.	
6	M.	30	Laborer.	Jan. 29.	Feb. 22.	Cured.	
7	M.	32	Mason.	May 23.	May 23.	Died.	Fracture of base, and laceration of brain.
8	M.	30	"	" 25.	" 25.	Died.	Fracture of base.
9	M.	35	Sash maker.	Nov. 9.	Nov. 18.	Died.	Fract. of external table, a mere fissure, the internal driven. No inflammation or abscess.
10	M.	39	Carpenter.	May 16.	June 27.	Cured.	Simple fract. Clot in left occip. fossa; cerebellum and post'r lobe of cerebrum compressed. Effusion over right anter. lobe of cerebrum, and laceration of brain at this point. Fract. from left of med. line to foramen magnum.
11	M.		Seaman.	April 7.	April 8.	Died.	
12	M.		Seaman.	Oct. 7.	Dec. 24.	Cured.	
13	M.	37	Boatman.	April 6.	May 30.	Cured.	Simple fract. of calvarium, extending into base.
14	M.	30	Segarmaker.	June 4.	June 4.	Died.	
15	M.	71	Plasterer.	July 23.	July 25.	Died.	Simple fract. of calvarium, extending into the base; extensive effusion of blood.
16	M.	40	Seaman.	Aug. 23.	Aug. 24.	Died.	
17	M.	34	Laborer.	Sept. 30.	Sept. 30.	Died.	Fracture on left side with depression; extensive extravasation extending into base.
18	M.	15	Clerk.	Oct. 2.	Oct. 5.	Died.	Fracture extended into the base in various directions.
19	M.	24	Porter.	Jan. 22.	Jan. 22.	Died.	Extensive fracture of base, with extravasation; fracture of ribs and laceration of lung.
20	M.	17	Printer.	Aug. 16.	Aug. 16.	Died.	Fracture on left side, without depression; extravasation over the whole surface of brain.

Symptoms.

Symptoms of compression. Trephined. Fracture compound.

Symptoms of concussion. Hemorrhage from ear.

Comatose. Right pupil dilated.

Compound fracture into frontal sinus.

Compound. Symptoms of compression on 28th. Trephined.

Compound. Laceration of brain and dura mater; fracture on *left* side; left pupil dilated. Hernia cerebri.

Prostration. Simple fracture; hemorrhage from ear. Trephined.

Prostration. Compound fracture. Trephined; incision of dura mater.

Fracture compound.

No symptoms of compression. Compound fracture of vertex.

Insensible, and in a state of prostration. Reaction in a few hours; pupils contracted; *right* eyelid drooping; mouth slightly drawn to *left* side; movement of *right* limbs less free than that of the left.

Compound, with compound comminuted fracture of femur; restlessness and delirium; fell 80 feet, from masthead.

Compound, with depression; no bad symptoms; trephined immediately.

No fracture of skull detected. Fracture of leg and arm.

Simple fracture on *left* side, with depression; left pupil dilated, symptoms of compression. Trephined; extensive extravasation at seat of fracture.

Simple fracture. Hemorrhage from nose and ear; coma, with dilated pupils; stertorous breathing; convulsive twitching of muscles of face and limbs.

Compound, with laceration of brain; prostration from hemorrhage; bone elevated.

Cold and in collapse; died 15 minutes after admission.

Coma; hemorrhage from nose and mouth; vomiting before admission. Respiration stertorous, no paralysis; pulse frequent. Left eye closed from swelling of lids; *right* pupil contracted, and insensible to light.

No.	Sex.	Age.	Occupation.	Date of Admission.	Date of Discharge.	Result.	Post mortem Appearances.
21	M.	15		Sept. 12.	Nov. 17.	Cured.	
22	M.	30	Musician.	Dec. 4.	Dec. 25.	Died.	Fract. on right side of calv. with slight effusion; fracture extended to base, involving the posterior clinoid processes.
23	M.	24	"	Jan. 10.	Jan. 10.	Died.	Clot $8\frac{1}{2}$ inches in diameter and 1 inch thick in right temp. reg. lac. of mid. men. artery from a depression of the inner table, there being a mere fissure of the external, difficult to be detected.
24	M.	47	Fireman.	Feb. 1.	Feb. 1.	Died.	Fissures extended in various directions from the seat of operation, one running to foramen mag. Clot on right side over nearly half the surface of brain.
25	M.	17	Porter.	Feb. 18.	Feb. 16.	By request	
26	M.	28	Laborer.	Dec. 20.	Mar. 30.	Cured.	
27	M.	50	Lamplighter	April 4.	April 7.	Died.	Fracture extended into base; right lateral ventricle filled with blood. Brain extensively lacerated.
28	M.	30	Laborer.	June 15.	June 16.	Died.	Fracture of base, with effusion of blood.
29	M.	24		June 1.	" 18.	Died.	Abscess extending nearly to the lateral ventricle of right side. Right hemisphere of cerebrum extensively decomposed and softened.

Symptoms.

Restless; pulse good, surface warm; talked incoherently. Compound fracture; brain oozing from wound; fracture on left side, with depression; trephined. *Hernia cerebri.*

Found by policeman in a state of insensibility; surface cold, pulse slow and small; pupils contracted, but acting feebly; mutters incoherently. *Right* arm partially paralysed. Became more conscious before death.

Insensible, surface cool, breathing stertorous, pupils dilated and fixed; found so five hours before admission; was knocked down with a club, afterwards rose, walked home, and complained of nausea; tumor on the right parietal protuberance. Died about 24 hours after accident.

Insensible; injured half an hour previously from a heavy "block" falling from the rigging upon head. Almost pulseless, surface cool, breathing "puffing," and slightly stertorous. Extensive laceration at vertex; no fracture detected. Pupils dilated and fixed. Trephining. Died immediately.

Insensible, pulse small and frequent; pupils dilated; fell through the hatchway of a ship; compound fracture of cranium, with slight depression.

Injury three days before admission; prostration; pulse slow and feeble; pupils dilated, but acting; partially conscious when aroused; lies in stupor; unable to articulate. Laceration of scalp over left eye, no fract. detected. Dec. 23. Better. A small wound over left ear was to day enlarged, and a fracture with some depression, detected. Jan. 5. In a state of profound stupor; cannot be aroused. Pupils dilated. Trephined. Five ounces of pus escaped from a wound of the dura mater.

Blow with a slung shot, on Mar. 27; picked up insensible, but soon recovered consciousness. Paralysis of *left* side. Apr. 6. Lies in a state of stupor, but can be aroused. Paralysis on left side still complete. Respiration calm and slow, pupils natural, pulse 64, weak. Elastic swelling over *right* temporal region. Trephined. Fracture with slight depression found; disk removed from temporal region.

Insensible. Respiration stertorous, pulse small; bleeding from ears and nose. Kicked by a horse.

Was struck on the head some days before admission. Insensible for a time. Rational now, and complains but little. Wound over right parietal protuberance and a fracture, but no depression detected. "Numbness" of left side, and slight paralysis. 5th. Worse. Enlarged wound, found depression; trephined. Dura mater found lacerated. 6th. Better. 8th. Some fungus cerebri. 9th. Spasmodic action of muscles of left limbs. 10th. Severe convulsions of left side. 11th. Hemiplegia of left side. Hernia increasing. Hemiplegia paroxysmal; during paroxysm, intellect undisturbed; pupils moderately dilated and fixed. Bled twice. 12th. Hernia excised and compression made. 13th. Better. Hemiplegia at longer intervals. 17th. No convulsions since last date. 18th. Last night became suddenly comatose, and died.

No.	Sex.	Age.	Occupation.	Date of Admission.	Date of Discharge.	Result.	Post mortem Appearances.
30	M.		Cooper.	July 8.	July 10.	Died.	Corresponding with external wound was an immense coagulum; no lac. of dura mater. A mere fissure of right parietal, and squamous portion of temp. extending vertically from the petrous portion to near the sagittal suture.
31	M.	22	Laborer.	Aug. 7.	Aug. 16.	Died.	Separation of right occipitotemporal and temporo-parietal sutures; fract. extending to foramen mag. on right side. This continued to foramen lacerum post. of left side, thence through left petrous bone, then upward through squamous portion of temp. bone to temporo-parietal suture. Slight depression of vitreous table on right side. Sero-purulent fluid in lat. ventricles, under medulla oblong, substance of which somewhat softened.
32	M.	2½		Sept. 27.	Oct. 3.	Died.	No autopsy obtained.
33	F.	26		Oct. 9.	Oct. 10.	Died.	Small coagulum on right side of occiput, both external and internal to dura mater.
34	M.	16	Pedlar.	Nov. 29.	Nov. 29.	Died.	Clot of blood, external to dura mater over left petrous bone, and a fract. through the middle of this longitudinally.

Symptoms.

Wound over right parietal protub. No fract. detected; insensible; resp. stertorous; extremities cool, *right* pupil dilated and fixed; left natural and active. Slight indication of pain upon handling the wound. 10th. Last night, skin became suddenly hot; pulse rose to 120, full and strong. Respiration rapid; bled to 5 oz., pulse changed, wound closed up; died almost immediately.

Fell from his cart; picked up insensible, but conscious when admitted; fissure of occiput felt through a wound of scalp, but no depression detected. 8th. Febrile excitement; headache and nausea. 9th. Pain in *left* ear, and sudden serous discharge from it, while patient was rising from bed. 13th. Delirious, pain in head, face flushed. 14th. Partially comatose, extremities cool; muscles of *left* side of face partially paralysed; unable to close left eyelid; semi-frontal headache. 15th. Talks incoherently, and tosses his arms about; strabismus divergens; last night became suddenly comatose; pupils contracted.

Five days ago, fell, striking upon head; insensible 48 hours, and hemiplegia on *left* side. Large tumor on right side of head. Paralysis still continues; fluctuating tumor above *right* ear, and crepitus to be felt through it. Pupils natural; intellect good. Paralysis on left side of face, which had existed 36 hours. Incision made; portions of brain escaped through wound; extensive fracture, no depression. Removed loose portions of bone. 28th. Quiet and comfortable since operation. Oct. 1. In a semi-comatose state; answers questions when aroused; pupils natural. Oct. 2. Hernia cerebri; paralysis as before.

Compound fracture of right parietal protuberance with depression. Coma, pulse 160, very weak; pupils contracted and fixed. Trephined.

Blow on the left parietal region near vertex, from a barrel of flour falling upon it; tumefaction, but no fracture detected. Insensible. Pupils much dilated. Pulse frequent and scarcely perceptible; surface cold. Hemorrhage from left ear. In two hours rallied, became partially conscious, and drank some tea, but fell off and died in a few hours.

No.	Sex.	Age.	Occupation.	Date of Admission.	Date of Discharge.	Result.	Post mortem Appearances.
35	F.	8		Mar. 3.	Mar. 5.	Died.	Right orbital plate fractured into several pieces. Right ant. lobe of cerebrum lacerated and softened; lac. of left post. lobe of cerebrum, slight effusion of blood in right lat. ventricle. Fracture extended backward through greater and lesser wings of sphenoid to petrous portion, and across it on either side.
36	M.	25	Laborer.	June 5.	June 5.	Died.	Fract. extended from petrous portion on left side, through base and right petrous portion to right parietal protub. Sella Turcica comminuted. Right mid. men. artery wounded. Left orbital plate fractured. Extensive clot on both sides, extending to base.
37	M.	35	Laborer.	June 15.	July 8.	Died.	No autopsy obtained.
38	M.	6		July 25.	Aug. 4.	By request	
39	F.	11		May 27.	Aug. 11.	Cured.	
40	M.	27	Stableman.	July 5.	Aug. 20.	Died.	About half of the middle and anterior portions of the left hemisphere softened and disorganized.
41	M.	24	Laborer.	Sep. 17.	Sep. 17.	Died.	Slight fissure of skull; large clot over right cerebral hemisphere.
42	M.	27		Sep. 24.	Sep. 24.	Died.	Occiput extensively fractured. Large clots.
43	M.	40	Laborer.	Sep. 25.	Sep. 26.	Died.	Fracture extending from calvarium, on right side, into the base, across it, and upon left side of calvarium. Extensive clots on right side and at base. Rupture of right middle lobe.

Symptoms.

Nearly pulseless and insensible; surface cold; hemorrhage from nose, ears and eyes; vomiting; also fractures of lower jaw, thigh and leg. Right side of head much swollen; right eye destroyed. Rallied in a few hours, became sensible, but not conscious; some paralysis of *left* arm. Mar. 3. Rather better. 4th. Profound coma.

Compound fracture on left side. Pulse full, 60; surface cool; pupils unaltered. Resp. stertorous; paralysis of *left* side. Comatose. Also fracture of inferior maxilla.

Compound fracture just anterior to left parietal protuberance; some depression. No head symptoms. 18th and 19th. Bled and cupped. 24th. Supp'n of wound. Sloughing and extensive supp'n about a fracture of the clavicle, which was also produced by the injury; hemorrhage from thia. Died without head symptoms. Compound fracture of parietal bone.

Compound fracture of os frontis. No symptoms except dilation of pupils. Kicked by a horse, five days before; was stunned; became sensible, and vomited; had convulsions during the next 48 hours—since which, has been delirious. July 6. Last night was so violent as to require to be tied in bed. Trephined. Fracture was compound of the os frontis, with depression; four ounces of effused blood escaped when the bone was raised. Laceration of dura mater. July 7. Has been quiet, sleeping most of the time; does not answer rationally. Pulse 86, quick and hard. V. S. 3xviii. 9th. Convulsions last night; bled again. 11th. Doing well. 17th. Able to walk about the ward. Has had paralysis on *right* side, but none now. August 1st. Headache; pulse less frequent. 14th. Becoming comatose; fungus cerebri. 18th. Fungus excised. Injury on the previous night. Symptoms of compression. No external mark of injury.

Symptoms of concussion; pulse frequent and irregular; extremities cool; delirious from drink. In a few hours symptoms of compression set in. Had been injured just before admission. Insensible, restless, and somewhat violent; required to be held in bed; pulse nearly natural; pupils acting feebly; had been drinking; countenance and lips turgid. Edema of scalp on both sides; next morning, symptoms of compression; stertorous respiration; frothing at the mouth; pupils dilated and inactive; pulse 76, feeble.

No.	Sex.	Age.	Occupation.	Date of Admission.	Date of Discharge.	Result.	Post mortem Appearances.
44	M.	12		Aug. 27.	Oct. 20.	Cured.	
45	M.		Bookkeeper	Nov. 6.	Nov. 6.	Died.	Extensive comp'd fracture of calvarium extending into base; clinoid processes broken off.
46	M.	27	Laborer.	Nov. 8.	Nov. 12.	Died.	The fractures extended to base, but in the form of mere fissures. Clot in <i>right</i> temporal region; nearly whole of right cerebral hemisphere in a disorganized state, semi-fluid and chocolate coloured. Corpus callosum, on right side, slightly affected.
47	M.	11		Dec. 24.	Jan. 4.	Died.	Twelve hours after death, small abscess under dura mater, at seat of injury; abscesses and tubercles in the lungs.
48	M.	26	Carpenter.	Feb. 5.	Feb. 5.	Died.	No autopsy.
49	M.	40	Laborer.	Feb. 26.	Feb. 27.	Died.	Fracture of greater wing of sphenoid and squamous portion of temporal. Coagulum on right side.
50	M.	3		Mar. 14.	Mar. 14.	Died.	Fracture involved the occipital squamous portion of temp., and parietal of right side. Extensive clot beneath the dura mater.
51	F.	27		April 8.	April 12.	Died.	Fifteen hours after death, found a depression of external table of small extent, as if made by a sharp instrument; much more depression of internal table. Effusion of pus over the two posterior thirds of right hemisphere, and posterior third of left. Arachnitis.

Symptoms.

Musket-ball penetrated the occiput, and apparently lodged in the brain; finger could be introduced its whole length. Several fragments of bone removed. No bad symptoms.

Died within 15 minutes after admission. Two hours after accident. Fracture of thigh and clavicle.

Rock weighing 30lbs. fell on him two days before admission, producing fracture of calvarium on right side, with depression. No head symptoms; was able to walk without difficulty. Was insensible for some time after the injury; pupils natural. Dura mater and brain lacerated. Several pieces of bone removed. 10th. Comfortable, mind clear, skin natural, pulse 80, regular. 11th. 12 o'clock last night commenced vomiting, and soon after, the lacerated brain began to protrude; soon became unconscious and violent, requiring to be strapped to the bed. No convulsions; no paralysis. *Right* pupil dilated.

Stone weighing 14lbs. fell on head day before. Compound fracture of right side of calvarium with depression. Was insensible for 8 hours. Upon admission, no bad symptoms except slight frontal headache. Immediately trephined. 25th. Comfortable; some erysipelas about wound. 27th. Doing well. 31st. Worse; extensive erysipelas; sloughing of scalp.

Head crushed; *in articulo mortis*. Fracture of both arms and patella.

Fell 30 feet into a pit, a few hours before. No mark of injury about head. Unconscious since accident; restless and muttering; pupils natural, and fully acting; extremities cool; pulse not accelerated, full and strong. 27th. Restless and violent during night, requiring restraint.

Fell from a window upon pavement. Insensible, cold, pulse feeble. Respiration labored; pupils slightly contracted, but acting feebly; has vomited twice. Subsequently, symptoms of compression came on.

Beaten on the head a week ago. Partially comatose condition, lying quiet when not disturbed, and breathing in a labored manner; when addressed loudly, answers questions rationally. Pulse 116, feeble. Respiration 46. Skin rather warm; face flushed, mouth dry, teeth covered with sordes. *Right* pupil much dilated, and both act feebly. Partial paralysis of *left* arm. Scalp wound on either side of head. No fracture detected. 9th. *Right* pupil contracted, *left* dilated. Violent during the night; extensive chemosis of *right* eye. 11th. Comatose. *Right* iris has an oscillating motion.

No.	Sex.	Age.	Occupation.	Date of Admission.	Date of Discharge.	Result.	Post mortem Appearances.
52	M.	35	Seaman.	Apl. 25.	Apl. 26.	Died.	16 hours; extensive extravasation through the scalp. Fracture of left side of calvarium, extending into base. The fract. of the calv. consisted in the separation, to the extent of a line, of the fronto-parietal suture; on the right side suture undistinguishable. Extensive clot on left side, and rupture of middle cerebral lobe.
53	M.	35	Laborer.	Apl. 1.	June 15.	Cured.	
54	M.	50	Laborer.	June 30.	June 30.	Died.	Several fractures through base; one through petrous bone; one through roof of orbit to external ang. process. A large coagulum beneath the dura mater.
55	M.	30	Baker.	July 21.	Aug. 11.	Died.	About a drachm of pus under the membranes to the right of longitudinal sinus. Brain and membranes elsewhere healthy.
56	M.	25	Seaman.	Aug. 15.	Aug. 16.	Died.	Whole base extensively comminuted, several fragments being loose and displaced. Clot under dura mater, on anterior lobe of left hemisphere. 3 vi. of coagulated blood at base.
57	M.	21	Seaman.	Aug. 16.	Aug. 16.	Died.	No autopsy.
58	M.	36	Clerk.	Aug. 24.	Aug. 27.	Died.	3 iv. of bloody serum at base. In centre of occipital fossa, a clot, and corresponding to this a fissure of the skull. Brain softened.
59	M.	33	Seaman.	Sept. 19.	Sept. 20.	Died.	Fracture on left side of calvarium, extending backward through occipital bone to base. Extensive clot on left side, external to dura mater; blood over whole left hemisphere.

Symptoms.

Fell 50 feet just before. Was in a state of stupor, but spoke once or twice after admission; soon relapsed into complete insensibility; afterward became violent and resisting, requiring restraint; pupils much contracted, and immovable. No fracture detected. 26th. Comatose and quiet; opens his eyes when addressed loudly. No stertor; pupils same.

Compound fracture of os frontis. No head symptoms; also of patella, radius and thigh. Insensible; lived five hours.

Was intoxicated; wound of scalp on left side; considerable hemorrhage; fracture of parietal bone; slight depression; sensible, though rather unmanageable. Pupils rather dilated, and sluggish; surface warm. Aug. 4th. Severe frontal headache; chills. 6th. Chills; irritability of stomach. 7th. Same. Trephined; upon raising the bone, pus, to the amount of 3 ss. gushed out; temporary relief. 10th. Delirious; spasms of facial muscles; very violent; dura mater looks sloughy.

Symptoms of concussion. Extremities cold; vomiting, jactitation; pupils a little dilated; pulse small and slow; patient soon became noisy and violent, requiring several men to confine him to bed; so continued until an hour before death.

Symptoms same as the preceding case; wound of scalp running along coronal suture five inches; extensive fracture running in the same direction, with depression. Trephined; a large clot removed. 18th. Drowsy and stupid; pupils contracted. 12m. Symptoms of compression came on suddenly; pupils dilated. Respiration stertorous; pulse full and jerky. V. S. 3 xviii.

Wound over occiput; no fracture detected. No symptoms of fracture. Delirium tremens during the day, sensible and about the house; suffering at night from symptoms of delirium tremens.

Half an hour before, fell into hold of a ship. Is recovering from effects of concussion. Pupils act feebly; no consciousness; pulse rather frequent, akin pleasant, countenance pale. Some hours after became restless, then comatose. Sudden symptoms of compression; pupils dilated; respiration stertorous; pulse slow.

No.	Sex.	Age.	Occupation.	Date of Admission.	Date of Discharge.	Result.	Post mortem Appearances.
60	M.	50	Laborer.	Oct. 11.	Oct. 12.	Died.	Fract. extended downward on right side to meatus externus, along junction of petrous with sphenoid, and across basilar process. Whole left hemisphere covered with blood, internal to dura mater, which proceeded from a lac. of mid. lobe of left side at base.
61	M.	34	Seaman.	Oct. 10.	Oct. 18.	Died.	Fracture on right side of vertex, semicircular; radius of half inch, no fissures; depression of a line a separate fract. at base on either side of foramen magnum. On both sides, it extended beyond the condyloid processes.
62	M.	20	Seaman.	Oct. 27.	Oct. 28.	Died.	Moderate extravasation beneath the scalp on right side, none on left. Clot an inch in thickness filled up mid. cerebral fossa, extended forward, somewhat over roof of orbit, ascending nearly to zygoma. No fracture of calvarium. On left side, at base, a fissure across base of petrous bone, crossing greater wing of sphenoid, and involving foramen spinosum.
63	M.	27	Lawyer.	Dec. 15.	Dec. 17.	Died.	One hour. Brain congested. Quantity of fluid blood in right mid. central fossa, internal to dura mater. Clot in same situation external to this membrane. Separation of lambdoidal suture on right side. Edema of glottis.
64	M.	21	Seaman.	Dec. 27.	Dec. 29.	Died.	Small clot under arachnoid. Fract. extended forward through cribriform plate, then backward through sella turcica; another extended downward through squamous portion to foramen magnum.

Symptoms.

36 hours before, fell from a height of four steps backward upon pavement. Insensible; respiration frequent and labored; pulse 150, full, mod. force; skin hot and dry; blood in right ear; wound of scalp three inches above right ear; fracture, with some depression. Trephined. Fracture very extensive; large clot extending toward base; considerable hemorrhage from mid. men. artery. No improvement.

Fell just before from the yard-arm upon the deck. Insensible; extreme restlessness; pulse scarcely perceptible; pupils dilated; wound of scalp at sinciput, transverse, four inches in length, crossing median line; fracture extending in same direction; depression moderate. 11th. Restlessness has subsided; reaction established; temperature natural; pulse pretty good; in a state of stupor, with occasional distension of cheeks in expiration. 12. Some consciousness; pupils natural; in a comatose state, but can be aroused; pulse 108, weak; passes his water and feces in bed. 17. Past two days delirious, slept none; talks incoherently; pulse 154. Restless and violent, requiring restraint.

Was struck by barrel of flour upon the head, and knocked into the hold of vessel, 16 feet; picked up insensible, but furiously delirious; admitted in this condition. Surface natural; pulse 52, moderate force, pupils natural. When touched, screams violently, and struggles. Resists attempts to remove his clothes, though perfectly unconscious. When touched about the face, attempts to bite. Contusion of right temp. region, and a soft quaggy feel over right cheek, and above left ear. Died 15 hours after admission; for some hours previous, pulse was 120; restlessness and delirium continued.

Was struck on right side of head just before by a passing R. R. car; tore off ear and knocked him senseless to ground. Was conscious on admission. Somewhat intoxicated; general contusion of head, but no sign of fracture. 16th. No bad symptoms; walked a little to day. 17th. Died suddenly of suffocation.

Fell an hour before, from mast, 50 feet. Compound fracture of left parietal bone with a depression of a large fragment; comatose. Pulse fair, rather slow; pupils natural, temperature unaltered. Hemorrhage from left ear. 28th. Last night became restless and violent, requiring restraint; trephined. Fracture found to extend towards orbit; clot $3\frac{1}{2}$ inches in diameter, and one inch thick. No improvement.

No.	Sex.	Age.	Occupation.	Date of Admission.	Date of Discharge.	Result.	Post mortem Appearance.
65	M.	22	Laborer.	Mar. 8.	Mar. 24.	Died.	Anterior and middle lobes of right hemisphere almost wholly destroyed; the disorganization of the tissue has opened the lateral ventricle; whole right hemisphere covered with unhealthy pus; pus at base also. The fracture did not extend further than was observed before death.
66	M.			May 16.	May 17.	Died.	18 hours after death. Substance of hemisphere below fract. broken down into a chocolate colored mass to an inch in depth.
67	M.	36	Boatman.	Mar. 30.	April 2.	Died.	18 hours after death. Clot under dura mater first posterior to wound of membrane. Enormous clot over right hemisphere, external to membrane. Fract. extended from orbital plate of left side backward and to the right through cribriform plate, which was comminuted; then through clinoid process and greater wing and petrous portion to occipital.
68	M.	17	Harness maker.	May 14.	May 27.	Cured.	
69	M.			July 25.	July 25.	Died.	12 hours after death. Separation of sagittal suture; two fractures from the posterior extremity of this, on opposite sides, to the base. Whole calv. much comminuted.
70	M.	14		July 27.	July 27.	Died.	A thin coagulum was diffused over the whole surface of the brain, particularly on the left side.

Symptoms.

Struck a few hours before, with a shovel, while drunk; was stunned by the blow, but recovered and walked to the Hospital. Upon admission, was conscious; pulse calm and natural; wound over right parietal bone, passing down two inches just anterior to the ear; the bone was cleft to the same extent, a narrow strip being driven deeply in at both extremities of cleft; fracture extended in form of fissure as far as could be traced. Trephined. Inner table fractured to a much greater extent than outer; membranes and brain lacerated; considerable hemorrhage during operation. March 9th. Pretty comfortable. 11th. Headache, febrile excitement, &c.; erysipelas of head and face; suppuration commencing. Intellect good. 12th. Restless and somewhat delirious last night; pulse 98. 14th. Hernia cerebri; partial *ptosis* of left eyelid; right angle of mouth slightly drawn up; unable to protrude the tongue. 17th. Paralysis of *left* arm; partial of *left* leg. 22d. Hernia sloughy; removed whole mass; tendency to coma; breathing slow and labored; pulse 76. Involuntary discharges from bladder and bowels. 23d. Marked symptoms of compression have shown themselves suddenly; stupor, stertorous breathing, pupils rather dilated. Hernia larger than when excised. Struck with a hammer three or four hours before; conscious, but unable to articulate distinctly, both pupils dilated; pulse 108, full and strong; compound fracture of left parietal bone, with considerable depression. Trephined. Laceration of brain and membranes; hemorrhage free. Condition improved by operation. Mar. 31st. Passed quiet night; no head symptoms; tongue turns to the right when protruded; left angle of mouth drawn down; twitching of muscles of right side; pulse 112, soft. April 1st. Comatose; can be partially roused; cannot articulate, though he attempts to do so. Hernia cerebri; purulent discharge. Some hours before admission, was struck on head with a club; wound over left brow; fracture with depression. Insensible; pulse full but intermittent; pupils dilated; respiration labored. Trephined; every appearance of clot under dura mater; divided it; no clot, semi-fluid blood poured out. No change in condition.

Insensible; compound fracture of frontal bone, with some depression on *left* side. Pulse 100, full. Left angle of mouth drawn downward; pupils dilated; had vomited. 15. Better. 16. Erysipelas of scalp. Fell from 3d story; insensible; died seven hours after admission.

Fell from a shed, about 12 feet. Insensible; stertorous respiration; dilatation of *left* pupil; contraction of right. Contusion over both parietal bones. Over the *left*, a depression felt. Slight paralysis of lower extremities; spasms of muscles of upper. Skin burning hot. Bled; no relief. Trephined. On left side, fracture extending from parietal lobe toward occipito-parietal suture; bone elevated, with some relief; heat of skin abated. Within three hours, heat returned; pulse rapid and feeble.

No.	Sex.	Age.	Occupation.	Date of Admission.	Date of Discharge.	Result.	Post mortem Appearance.
71	M.	18		Aug. 10.	Aug. 10.	Died.	Fract. had comminuted the left orbital plate, extended backward, and to the right, across right lesser and greater wings of sphenoid to petrous portion. Cribriform plate driven down and brain had escaped through the nostril previous to death.
72	M.	18	Tailor.	Aug. 5.	Aug. 17.	Cured.	
73	M.	12		July 22.	Aug. 30.		
74	M.	30	Printer.	Sept. 1.	Sept. 1.	Died.	2 hours after death. Fracture extending from middle of right parietal bone downward and outward through squamous portion, clot in temp. region, containing about 3 ounces.
75	F.	12		Sept. 14.		Died.	10 hours after death. Separation of coronal suture through its whole extent, with small triangular fracture a little depressed, extending into right parietal bone. Also fract. of left parietal bone, and petrous portion of temp., with rupture of meningeal artery.
76	M.	15	Seaman.	Oct. 11.	Oct. 12.	Died.	12 hours. Fracture through right petrous portion, and a clot on <i>left</i> side of head, internal to dura mater.
77	M.	24		Oct. 11.	Oct. 19.	Died.	Comminuted fracture of right petrous portion, and suppuration in and about it.
78	M.	33	Seaman.	Oct. 23.	Oct. 28.	Died.	Found extensive fracture at base.
79	M.	21		Dec. 19.	Dec. 19.	Died.	Calvarium extensively comminuted.

Symptoms.

Fell three stories. Comatose. Pulse hard and quick. Respiration stertorous. Paralysis of upper and lower extremities, except slight motion of right arm. Compound fracture over parietal protuberance, with depression; laceration of brain, and escape of some of its substance; fracture evidently extends through the orbital plate.

Was struck with a club just before admission. Compound fracture of skull in situation of posterior and superior angle of left parietal bone, with marked depression of a piece of bone the size of a 25 cent piece. No head symptoms, nor did any occur during his stay in hospital.

Fell upon the floor while swinging. Wound of scalp three inches long, near vertex; also fracture of radius; no head symptoms. 29th. Extensive suppuration beneath scalp; openings made. August 2d. To-day, on passing probe into one of the openings, detected an extensive fracture of right parietal bone, with some depression.

Cold and nearly pulseless; stertorous breathing; dilated pupils. Fell from 3d story window just before admission. Wound over right parietal bone; no fracture detected.

Fell from deck of vessel into hold. Immediately bled by a doctor. Upon admission, was insensible, and almost pulseless; had vomited, and continued to do so. Depression felt on right side of head, over coronal suture.

Fell into hold of ship just before admission; insensible, cold extremities, pulse small and irregular; bleeding from right ear and nostrils; could, with difficulty, be roused to answer questions. Left pupil contracted.

Fell from a second story, just before admission, while drunk. Hemorrhage from right ear and nostrils. Insensible and restless; had vomited blood. Can be aroused to answer questions. 18th. Better; sero-sanguinolent discharge from ear. 17th. Has had rigors; sero-purulent discharge. Delirious.

Fell from second story window just before, while drunk; vomited freely; unconscious, restless and resisting.

Fell 20 feet just before admission. Compound fracture of skull at vertex; laceration of membranes, and protrusion of brain. Insensible; respiration stertorous; cold extremities; pupils dilated.

No.	Sex.	Age.	Occupation.	Date of Admission.	Date of Discharge.	Result.	Post mortem Appearances.
80	M.	20	Carpenter.	Jan. 13.	Jan. 13.	Died.	22 hours. Found extensive fracture at base, involving left orbital plate, body of sphenoid and right petrous portion. Extensive extravasation at base, on both sides of dura mater.
81	M.	31		Feb. 16.	Feb. 18.	Died.	Five hours after death. Found active cerebritis and meningitis, deposits of pus and fibrin under arachnoid, particularly at base; clot on right side of head; fracture of right orbital plate extending through greater wing of sphenoid and petrous portion of temporal.
82	M.	41	Mason.	Dec. 17.	Dec. 23.	Died.	
83	M.	43	Laborer.	Jan. 30.	Feb. 13.	Died.	Some hours after death. Considerable effusion of serum under dura mater. Arachnoid, at some points, inflamed. Anterior lobe of left hemisphere inflamed and softened.
84	M.	24	Ropemaker.	Apl. 4.	Apl. 4.	Died.	A small portion of calvarium driven in one quarter of an inch; fracture involves both sides of med. line near post. part of sagittal suture.
85	M.	30	Printer.	Apl. 14.	Apl. 14.	Died.	A mere fissure was found close to seat of operation. A layer of dark blood over surface of the left hemisphere, beneath membranes. Softening of mid. cerebral lobe of left side. Clot in substance of right <i>thalamus nervi optici</i> .
86	M.	24	Clerk.	May 31.	May 31.	Died.	Comminuted fracture of frontal bone, extending half across left parietal, with some depression. Both orbital plates and crista galli broken. Laceration of ant. lobes at base. Effusion of blood under membranes at post. part of brain, <i>opposite</i> seat of fracture.

Symptoms.

Short time before, fell from spire of a church, 50 feet. Surface cool, pupils dilated. Hemorrhage from nose and from right ear; pulse weak and frequent; moaning; when spoken to loudly, attempts to answer. Fracture of both arms.

Was beaten over the head two days before admission. Insensible and delirious; pulse small and frequent; extremities cool; pupils somewhat contracted; some hemorrhage from right ear and nose; ecchymosis of right eyelids. 17th. Very restless last night, shouting and talking incoherently; retention of urine; strabismus of *left* eye. 18th. Continued as before, until early this morning, when a sudden change occurred; pulse became frequent and feeble, skin burning hot, especially the head, complete coma, almost complete paralysis, fixed pupils, &c.

Fracture of *os frontis* at frontal sinus, with other extensive fractures and injuries. Fell into the hold of vessel; compound fracture of skull, with depression just above right ear. Fracture and dislocation of *os femoria*. No head symptoms; patient able to relate the accident. Pulse 96, soft; respiration natural. Trephined. Feb. 2d. Better; has had febrile excitement and been bled. 4th. Delirious, and requires restraint; pulse feeble, takes stimulants. Patient is restless, pulling at the bed clothes, and scratching himself violently; semi-comatose and muttering, but when aroused, answers questions. 12th. Diarrhœa for last three days.

Mast fell upon him just before. Had vomited. Is in a state of collapse; insensible; respiration slow; pulse 48. Compound fracture. Died within ten minutes after admission.

Just before, was struck on the head with a heavy weapon. Wound of scalp over anterior and inferior angle of right parietal bone; no fracture detected. Insensible; pulse 120; temperature natural. Respiration stertorous. Pupils contracted. Symptoms of compression became urgent; pulse fell to 76. Trephined. Some improvement.

Two hours before, fell from a 3d story window, while drunk. Compound fracture of frontal bone on right side, also fracture of leg and arm. Vomiting and raving; pulseless at wrist; jactitation; talking incoherently.

No.	Sex.	Age.	Occupation.	Date of Admission.	Date of Discharge.	Result.	Post mortem Appearances.
87	M.	18		Aug. 24.	Aug. 24.	Died.	3 hours after death. Both orbital plates much comminuted. Fracture extended in various directions backward into the base, comminuting the right petrous portion. Sella turcica fractured. Inferior surface of both anterior lobes reduced to a pulpy mass.
88	M.	29	Laborer.	May 29.	May 30.	Died.	Five hours. Portion of brain corresponding to fracture lacerated and disorganized. Ant. and inferior part of <i>right</i> hemisphere disorganized from effect of <i>contrecoup</i> . A fissure extended from the fracture to the left side of foramen magnum. Occipital bone on left side quite movable. Long'l and lat. sinuses lac'd.
89	M.	20	Seaman.	Jan. 14.	Jan. 15.	Died.	Fracture of occiput with depression; clot external to dura mater in right posterior cerebral fossa, weighing 6 ounces; fracture extended through petrous bone on right side through meatus aud. int. and to foramen magnum.
90	M.	18	Seaman.	Apl. 28.	June 9.	Cured.	
91	M.	18		Sep. 10.	Sep. 15.	Died.	17 hours. Fracture extended from right parietal bone backward, and to left, as far as posterior occipital fossa. Clot over right hemisphere; another farther back and over left hemisphere.
92	M.	50		Jan. 25.	Jan. 26.	Died.	Ball was found to have passed entirely across the brain, and to have lodged against the dura mater on opposite side.
93	M.	37	Boatman.	Apl. 8.	May 30.	Cured.	

Symptoms.

Fell 50 feet. Fracture of left parietal bone, with depression. Insensible; pulse feeble. Respiration stertorous and labored. Died in an hour.

Heavy stone fell on head, from a height of 100 feet; vomited at the time. On admission, insensible; comatose, with stertorous respiration; dilated pupils; partial paralysis of *right* side; great jactitation. Temperature natural; pulse quick and small. Required restraint. Compound fracture of occiput on left side, with depression. Trephined. Less stertor and jactitation after operation. Right pupil contracted, left dilated.

Fell from 4th story to cellar, 2 hours before. Insensible; pulse small and feeble; pupils contracted; vomiting. Can be aroused a moment by addressing him loudly. Bleeding from right ear. Contusion on right side of occiput. Reaction established by stimulants. Became restless. 15th. Comatose; pulse full and jerky; skin hot and profusely perspiring. Respiration stertorous.

Six weeks ago, block fell from rigging, upon his head, producing fracture of the skull, with depression, of a piece the size of the palm of the hand, at the left and posterior region of the head. Ringing in the ears; sometimes pain in head; loss of memory to some extent; weakness of legs.

A few hours before, a bar of iron fell on head; compound fracture of right parietal bone; ecchymosis of conjunctiva oculi of left eye; vomited before admission; insensible; surface rather cool; pulse 110; restless, with continued vomiting; requires restraint. 11th. Has been roused so as to give his name. Left pupil contracted. 12th. Still very restless, requiring restraint; is noisy; can be roused at times to answer questions; pulse 78, and strong. Bled. 13th. Pulse 120, small and weak; is more quiet; pupils dilated; takes nourishment. 14th. Still delirious at times, and noisy. Motions of right side of body more free than those of left.

Four hours before, shot himself with a pistol. The ball passed into the brain at anterior and inferior angle of left parietal bone; profuse hemorrhage from middle meningeal artery; partially sensible; stertor, with blowing expiration; pupils slightly dilated; pulse 120, small and frequent; extremities cold; slight convulsions. Does not move lower extremities.

Compound fracture of left parietal bone; no head symptoms. Just before admission, was struck upon the head by a heavy "block." Trephined, and the depressed bone elevated.

No.	Sex.	Age.	Occupation.	Date of Admission.	Date of Discharge.	Result.	Post mortem Appearances.
94	M.	80	Cigar maker	June 4.	June 4.	Died.	General effusion of blood over the brain; clots at the base. Two fractures of base on right side, from orbital plate to foramen lacerum anterior, and from foramen magnum outward, two inches.
95	M.	71	Plasterer.	July 28.	July 25.	Died.	Depression of a triangular portion of os frontis; extensive coagulum at seat of fracture. Anterior lobe lacerated by spicular of inner table; left orbital plate reduced to fragments; thence the fracture extended through ethmoid, and through right orbital plate.
96	M.	87	Baker.	July 31.	Aug. 3.	Died.	Layer of coagulum one-quarter of an inch thick, covering whole right hemisphere; that portion of left hemisphere exposed by the trephined decomposed.
97	M.	40	Seaman.	Aug. 23.	Aug. 24.	Died.	Fracture extended from the left side forward to superciliary ridge, then across the right orbital plate. A large cavity was found in the left hemisphere of the cerebrum, communicating with the lateral ventricle.
98	M.	80	Seaman.	Jan. 5.	Jan. 5.	Died.	Contusion over left eye. Laceration of middle lobe of cerebrum; large coagulum.
99	M.	22	Boatman.	Aug. 3.	Sep. 12.	Cured.	
100	M.		Boatman.	Sept. 19.	Nov. 1.	Cured.	

Symptoms.

Two hours before admission, fell from a wagon. Insensible; continually scratches the genitals. No fracture of skull detected. Has fracture of fore-arm and leg.

An hour before, fell a distance of 7 feet. Wound over left frontal bone; no fracture detected. Fracture of scapula. Bleeding from mouth and nose. Insensible and restless. 25th. Partially comatose; mouth drawn to *right* side. Respiration hurried; pulse 130, strong. Died comatose.

Three hours before admission, struck by a hatchet. Insensible; respiration labored; pulse accelerated; right pupil dilated, left contracted. Wound on left side of head. Symptoms of compression soon set in. Trephined. Disk of bone removed; dura mater punctured. Aug. 1st. Insensible; paralysis on left side; paralysis of right eye-lids; pupils dilated.

An hour and a half before, was struck on the head with a carpenter's square; got up unassisted, but soon fell down unconscious. Symptoms of compression. Left pupil dilated, right contracted; pulse 46, irregular. Skin cool. Compound fracture, with depression on left side of the head. Trephined. Effusion of blood; laceration of brain and membranes. During operation, pulse improved; pupils became alike in size; warmth returned to the surface; afterward a profuse perspiration broke out and continued through the night. 24th. Spasmodic twitching of left fore-arm; scratches himself with *left* hand.

Eight days ago, fell into the hold of a ship; has been insensible since, with paralysis of *left* side. Died soon after admission.

Day before was struck on head by a heavy block; insensible for fifteen minutes; rational when admitted, but had no recollection of what had happened. Wound of scalp on upper part of occiput, right of medium line. 7th. Has convulsions of the face and *left* side of the body; frothing at the mouth; rational during the intervals; pupils rather dilated; no headache; pulse 80 and soft; surface warm; partial paralysis of *left* side; upon dilating wound, found extensive fracture, with depression; 16 fragments, some driven in half an inch, removed; removed a large clot. 8th. Restless, had two convulsions. Limbs of both sides convulsed. Erysipelas.

A few hours before, a "block" fell 50 feet, and struck upon the head, above the right temple; was insensible for a time; vomited frequently; was bled. When admitted could walk; a puffy tumor over right temple; pulse weak and fluttering; extremities cold. After reaction was established, trephined; found fracture with depression. Erysipelas.

No.	Sex.	Age.	Occupation.	Date of Admission.	Date of Discharge.	Result	Post mortem Appearances.
101	M.	34	Seaman.	April 18.	April 14.	Died.	Coronal suture separated through its whole extent; fracture through the base, of petrous portions of both sides; sella turcica. Clinoid processes broken off; thick clot over both anterior lobes; clot and laceration of brain at base on left side.
102	M.	60	Seaman.	Nov. 20.	Nov. 21.	Died.	Fracture without depression of left orbital plate, extending to middle of lesser wing of sphenoid. Coagulum occupying left fronto-parietal region under dura mater. Inferior portion of right anterior lobe lacerated, and reduced to a dark pulpy mass.
103	M.	17	Clerk.	Aug. 5.	Aug. 6.	Died.	Fracture extended into base. Clots at base, and two or three apoplectic clots in the substance of the brain.
104	F.	29		Feb. 9.	Feb. 11.	Died.	6 hours after death. Fracture extending from within a quarter of an inch from the perforation downward and forward to base, through squamous portion. Small coagulum in temporal region beneath dura mater. On <i>right</i> side a large clot, covering whole of middle lobe and part of the posterior.
105	F.	13		May 24.	July 28.	Cured.	
106	M.	32	Laborer.	Jan. 1.	Mar. 3.	Cured.	
107	M.	21	Farmer.	May 1.	May 2.	Died.	21 hours. Fracture of upper and posterior part of right parietal bone, with depression; arachnitis.
108	M.	21	Boatman.	Dec. 6.	Dec. 26.	Cured.	

Symptoms.

Fell into the hold a distance of 10 feet, striking upon the head. Insensible; pulse small and frequent; pupils dilated and immovable; bleeding from the nose; incoherent muttering and restlessness. Contusion on the left side of the head. Trephined. Small clot external to dura mater, incision of dura mater; no clot. After operation, breathing became more stertorous; head and trunk hot and bathed in perspiration.

Two hours before fell 15 feet, striking, as was said, upon the buttocks; hemorrhage from nose, and vomiting; on admission, insensible; pupils contracted; extremities cold; pulse feeble and irregular. Respiration stertorous and irregular. Mutters incoherently, and when addressed, attempts to answer; has probably been drinking. No mark of severe injury about the buttocks. Before death, vomited blood.

Fell from 8d story just before admission. Compound fracture of left parietal bone, with depression. Comatose. Respiration stertorous, surface cold, pulse feeble and irregular; occasional convulsions. Trephined.

Just before admission, was knocked down by a horse and cart. Insensible; surface cool, pulse small. Contusion of scalp over left parietal protuberance; hemorrhage from left nostril; fracture of several ribs. Five hours after admission reaction came on; respiration more labored; right pupil dilated and immovable. Trephined at seat of injury. No fracture or extravasation found; incision of dura mater. 10th. As before. Left eye affected with strabismus; pulse 108, irregular.

Just before, fell from a window. Compound fracture of os frontis, with depression; laceration of brain and membranes. Trephined.

Compound fracture of frontal bone on left side, just above orbit, with depression, affecting only the frontal sinus. No head symptoms.

Six days ago, was beaten over the head; experienced but little inconvenience the first two days. Is now insensible, and has convulsions; skin hot, pulse moderately full. Compound fracture of parietal bone.

Two hours before fell 20 feet into hold of vessel, causing compound fracture of the right side of head, over the occipito-parietal suture. Remained insensible for half an hour; was sensible when admitted; vomited occasionally; pulse slightly accelerated and hard; bled.

No.	Sex.	Age.	Occupation.	Date of Admission.	Date of Discharge.	Result.	Post mortem Appearances.
109	M.	29	Laborer.	May 8.	May 9.	Died.	Fracture commencing just posterior to coronal suture, right of median line extending to the suture, which was separated on left of med. line through its whole extent. Clot in left middle cerebral fossa. 3 iij. of fluid blood beneath dura mater. Left middle lobe softened; fracture extended to base on left side, fracturing posterior clinoid processes, lesser wings, &c.
110	M.	30	Fireman.	Oct. 1.	Oct. 7.	Died.	Clot on the right posterior cerebral lobe. Anterior portion of left middle cerebral fossa filled with a coagulum, which extended forward so as to cover the roof of the orbit. Fracture crossing the left orbital plate; one crossing right greater wing of sphenoid; other extensive fractures
111	M.	30	Carpenter.	Oct. 29.	Nov. 1.	Died.	Great distension of ventricles with serum; nothing further ascertained.
112	M.	35	Mason.	Nov. 20.	Nov. 20.	Died.	No autopsy obtained.
113	M.	18	Laborer.	July 25.	Jan. 10.	Cured.	
114	M.		Jeweller.	Apl. 2.	Apl. 2.	Died.	{ 6 hours after death. Clot covering whole of left hemisphere. Fracture on the right side, commencing in the parietal bone, extending through the squamous portion, through base to foramen ovale.
115	M.	24		June 16.	June 16.	Died.	
116	M.	48	Painter.	June 11.	June 11.	Died.	2 hours after. Both orbital plates comminuted; fractures of sphenoid, ethmoid, and petrous portions of right temporal bone.

Symptoms.

Just before was struck on head with an iron ladle. Insensible; pulse 56, small and feeble. Left pupil dilated, right contracted. Wound of vertex, just to right of median line, no fracture detected; vomiting of blood.

Just before admission, fell 30 feet; insensible; pupils contracted, right rather larger than left; extremities cool; pulse weak and irregular; respiration stertorous; abrasion and tumefaction of scalp over right temporal region. 3d. Some improvement; takes drink. 7th. Pulse more frequent; stupor more profound; skin hot and dry.

Fell 40 feet from a scaffolding; was insensible for a short time, but rational when admitted. Compound fracture of left side of occiput. 30th. Hiccough; no head symptoms. Nov. 1st. Delirious last night, and very restless.

Five hours before, fell 30 feet. Fracture of left parietal bone, with some depression. Right pupil dilated; pulse small; had lost a large quantity of blood; skin cool; breathing stertorous.

Was injured 3 days ago. Has been comatose ever since. Pupils moderately dilated and acting. Right arm paralysed. Respiration stertorous. Contusion of scalp on left side; fracture, with depression. Trephined; large fragments removed. Extensive coagulum; dura mater slightly lacerated. 29th. Improved; is conscious, and takes nourishment. 12th. Doing well; can move the right arm, but cannot articulate. 17th. Has recovered his speech.

Compound fracture, with depression of right parietal bone, from fall of masonry upon the head.

Fell from a hatchway just before. Insensible; respiration stertorous. Strabismus of right eye; pupils active.

Short time before, fell from a ladder; was entirely insensible; and died in 15 minutes.

No.	Sex.	Age.	Occupation.	Date of Admission.	Date of Discharge.	Result.	Post mortem Appearances.
117	M.	59	Laborer.	June 8.	June 18.	Died.	18 hours. Fracture through anterior portion of left temporal bone.
118	M.	39	"	Aug. 19.	Aug. 20.	Died.	Fracture extending from right orbit obliquely to right mastoid suture.
119	M.		"	Oct. 9.	Oct. 9.	Died.	Skull extensively fractured at base; large clot under dura mater on left hemisphere.
120	M.		"	Nov. 9.	Nov. 13.	Died.	Fracture involved the occipital, parietal and the orbital plate of frontal.
121	M.	26	"	Nov. 27.	Nov. 30.	Died.	Found fracture of the calvarium, apparently caused by a sharp point of rock, there being slight depression of external table, with much greater depression of internal; also laceration of intestines.
122	M.	30	Painter.	Dec. 2.	Dec. 8.	Died.	
123	M.	19	Carpenter.	Dec. 23.	Jan. 17.	Cured.	
124	M.	20		Feb. 14.	Feb. 14.	Died.	Fracture of temporal and occipital bones on left side. Rupture of left posterior lobe of cerebrum, and of right middle lobe. Coagulum on left side.
125	M.	34	Laborer.	Apr. 13.	June 16.	Cured.	
126	M.	25	Seaman.	June 10.	June 15.	Died.	Clot under dura mater on left side; left anterior lobe partially disorganized; fracture. Commenced near left occipital mastoid suture, extended through occipital bone and petrous portion on the opposite side.
127	M.	24	Book keeper	May 9.	May 15.	Died.	No autopsy obtained.
128	M.	26	Boatman.	May 2.	May 3.	Died.	Fracture of os frontis and parietal bone on left side. Effusion of blood beneath dura mater.

Symptoms.

Fell from a height. Partially insensible; urine and feces pass involuntarily. 10th. Violent delirium last night. 12th. Has pneumonia; lies in a state of torpor.

A short time before admission, fell 40 feet. When admitted, surface cool, pupils dilated, respiration stertorous.

Fell into the hold of a ship; left pupil dilated; pulse slow, respiration stertorous; depression felt just to left of occipital protuberance. Trephined without relief.

Fell 80 feet; partially insensible; pulse feeble and frequent; pupils natural; compound fracture, with depression, the brain protruding through the wound.

Two days before admission, received a blow on the head from a heavy mass of rock falling upon it. Has fracture of pelvis, dislocation of hip. No head symptoms; is able to give an account of the accident. No fracture suspected. Dislocation reduced under sulphuric ether.

Just before admission, fell from a height of 40 feet, producing compound fracture of ribs, laceration of lung, and a compound fracture of the skull, with depression. No head symptoms occurred.

Heavy weight fell on the head; was insensible for a time; but on admission, had no head symptoms. Compound fracture, with some depression on left side of the head. No bad symptoms supervened.

Fell into the hold of a ship an hour before. Entire paralysis and insensibility; right pupil dilated; pulse slow and feeble; respiration interrupted and sighing. Hemorrhage from right ear.

Three months ago, skull fractured by a fragment of rock falling upon it. Complains now of headache and vertigo; occasionally falls to the ground. There is a deep ulcer of scalp communicating with rough bone. 16th. Trephined. Removed a large depressed fragment of the inner table.

Seven hours before, was struck on left side of occiput with a blunt instrument, causing a wound of scalp. Is prostrated; pupils moderately dilated; when roused, mutters incoherently. 3 hours after, pupils became much contracted. 10th. Pupils again dilated. Vomiting; pulse 90, intermittent. 15th. Delirious.

Just before admission, fell from a second story to the ground, striking the head upon an iron safe. Is sensible. A depression is felt on the right side, a little below, and posterior to the parietal protuberance. Trephined; found laceration of dura mater. May 11th. Febrile excitement. 12th. Delirious, and occasionally stupid. 13th. Spasms of various parts of body, particularly the face.

Fell into the hold of a vessel, striking upon the head. Collapse; pupils active; mind unimpaired; vomiting. Died suddenly.

Perhaps the reader, who has not had a large experience in fractures of the skull, will be astonished, upon a hasty examination of the results of the table, at the great mortality, 106 out of 128, and may recall to mind a number of such injuries, a majority of which recovered. But if he will examine more carefully into the *nature* and *effects* of the injury in the individual cases, he will perhaps be equally surprised at certain recoveries which did take place. The injuries are, indeed, almost all of an extreme character, admitting of but little hope of recovery, having been for the most part, occasioned by falls from a height upon the head, an incident, most likely of all to prove fatal, or by the fall of a heavy body from a height upon the head, producing not only extensive fracture of the skull, with depression, often extending into the base, but in many cases laceration of the membranes of the brain, and of the brain itself, and rendering recovery almost hopeless. But a brief abstract of the nature of the injury in each case, as far as our data will allow us to give it, may place the subject in its proper light, promising, that we have been guided by conjecture in no case, only stating as facts what was demonstrated fully by *ante* or *post mortem* examination of the patient. Thus, in many cases, where the patient recovered, where no autopsy could be obtained, we have suspected, upon good grounds, fracture not only of the calvarium, but base, but have included no such case in the table.

Of the 128 cases, the exact extent of the fracture was ascertained in 95. In 45 of these the fracture involved both calvarium and base.

In 31 it involved the calvarium alone.

And in 20 the base alone.

In 26, or 20-31 per cent., both the brain and its membranes were lacerated; and in 4, the membranes alone. Of these 30 cases, only 3 recovered. In 10 cases, there was *hernia cerebri*, only two of which recovered. In 19 cases, or nearly 15 per cent., the fracture of the skull was complicated with other fractures, most of them very serious, and many of them almost sufficient of themselves to produce a fatal result.

Fracture of the base of the skull.—In sixteen of the fractures involving the base of the skull alone, the manner of the accident is mentioned. In thirteen it occurred from a fall from a height upon the head. In two, from the fall of a heavy body from a height upon the head; and in one from being beaten over the head with a club. Almost all these fractures, it will be seen, occur from falls upon

the head, the base of the skull being thus forcibly impelled against the spinal column, and thus broken, the fracture being doubtless also due, in some measure, to *contre coup*.

Separation of the Sutures.—In *three* cases, there was separation of the sutures without any fracture. In *four*, separation of the sutures, accompanied by fracture. In all these cases, the ankylosis of the sutures, judging from the condition of those uninjured, was perfect. In *five* out of the seven cases, the injury was occasioned by a fall from a height, striking upon the head; in one from a blow by a passing rail-road car, and in one from a blow with a club. This is a rare form of fracture, and only occurs, according to the authorities, from a very severe injury.

Fracture of the internal table without injury of the external.—In no case was this precise condition of things observed; but in two instances there was a very near approach to it, there being a mere fissure of the external plate, with fracture, attended by considerable depression of the internal. In one of them, the specimen of which is preserved in the pathological cabinet of the hospital, the fissure of the external table was so very slight as to be undiscoverable upon a first examination of the calvarium after its removal.

In two cases there was fracture of the calvarium by *contre coup*.

Condition of the pupils.—In all the cases, twelve in number, where the extravasation or depression was confined to one side, and the pupils affected differently, the *dilatation* was on the *same side* with the cause of compression. In none on the opposite side. But, in many cases, where this cause was situated exclusively on one side, no particular difference was noticed in the condition of the pupils, they being entirely unaffected, or affected alike. In *twelve* cases, in which the symptoms of *compression* were well marked, the patients not being in immediate danger of death, the pupils were *dilated* in *ten* (10,) contracted in *two* (2.)

Paralysis.—In *eleven* cases in which there was hemiplegia, whether partial or total, rarely the latter, and where the injury was mostly confined to one side or the other, it was found to affect the opposite side in *ten* (10,) the same side in one.

Trephining.—In forty-five cases in which this operation was resorted to, not distinguishing between the application of the trephine proper and of the various instruments appertaining to a trephining case, *eleven*, or about one-fourth, recovered.

The operation was performed *prophylactically* in *ten* (10,) of

which three were cured; *therapeutically* in thirty-two (32,) of which eight were cured. In three of the latter, the operation was secondary, of which two recovered. In seven of the cases trephined, the fracture was simple. In five cases, incision of the *dura mater* was practised, of which none recovered.

In no case did death follow the receipt of the injury until after the lapse of some hours, even in the most desperate cases; nor does it appear to be possible for an ordinary blow upon the head, producing fracture of the skull, to cause immediate death. The nearest approach to it I ever saw, was just previous to the termination of my term of service in May last; I was called into the yard to see a man in a carriage, who, it was said, had just fallen from the rigging of a ship to the deck, striking upon his head; this was the history obtained from his two shipmates who brought him to the hospital. Upon examination, I found the case hopeless; the man was perfectly dead, and had given no signs of life after the accident; he was not removed from the carriage. I could detect no fracture of the skull, and none of the neck, and yet either might have existed; probably a half hour or hour elapsed between the receipt of the injury and his arrival at the hospital. In a recent criminal trial of great interest, it will be recollected that, at one stage of the proceedings, it was much discussed whether a blow upon the head with an ordinary weapon capable of inflicting death, could produce this result instantaneously; many eminent surgeons were examined, and the general impression was, that the thing was exceedingly improbable if not impossible, and the question was thus decided.

ART. IV.—*Physiology of Subjectivity*. A thesis submitted to the *Medico-Chirurgical College of Philadelphia*. By BENNET DOWLER, M. D., of New-Orleans.

Perception, or the being aware of a thing, is a sensational intuition, or conscious state, and when not originating in the purely subjective or mental nature itself, is sensuous, having its origin in impressions and changes from without, that is, from the objective; but whether its source be purely subjective (internal) or objective, indwelling or transmitted, it can have no existence independently of consciousness. It may exist without, objectively; but, it is in its fundamental essence,

nothing but a subjective condition.* The distinction made between perception and sensation, by most psychologists and physiologists, is groundless. Sensation is not an entity, or a quality that can exist without perception ; its essence consists in being felt or perceived ; when not felt it is not.

The tendency of modern science to exalt the sensuous,† and to depress the objective sources of knowledge, is great, increasing, and ought to be resisted. Its fundamental axiom, that there can be nothing in the intellect but that which first passed through the senses, is an assumption, not to say an error. The understanding, and all the primary faculties, are innate, and never passed through the senses. The subjective is not created, but simply developed by the means or occasion of the objective. The former is the seed, the latter the fertilizing shower. The one existed anterior to the other. The former exists for itself, and is not a mere contingency resulting from the operation of the sensuous, or empirical phenomena.

The subjective, like a towering monument, veiled at first in almost total darkness, receives on its summit the first beams of the morning, until by degrees the whole structure is fully revealed, not created, in all its proportions.

The objective requires for its development, a long apprenticeship in the sensuous school. But when thus schooled, it is, in itself, able to study and deduce truths, wholly derived from its own proper nature, from its own operations—truths that never had a sensuous origin—truths that rise above the experimental philosophy—truths that really seem in contrast, if not in contradiction to experience, that is to say, necessary truths—truths that derived their validity from pure understanding, from transcendental and *à priori* intuitions ; as the infinity of space and duration, two straight lines having crossed each other cannot meet again, nor enclose a space, not to name numerous similar examples.

* The subjective designates whatever constitutes Self or the Me, the objective, the Not Me.

† Sensuous is not here used to imply sensation, or felt relation in any form, but to designate that school or method which derives all knowledge from objective nature by means of sensational transmission.

Even sensation is not sensuous or objective in its own proper nature. It is excited, but not caused, by the objective ; the latter is the occasion, not the sensation itself.

Sensation, like matter, mind, space, duration, cause, thought, will and the like, is undefinable, inexplicable, and incapable of being proved ; because, being of all truths the most self-evident, there remains no other evidence so clear as that inherent in itself. Consciousness cannot appeal to another higher and more enlightened faculty whereby to determine its own validity. It is its own first, middle, last, law and judge.

Although sensation cannot be defined logically, yet is readily comprehended by its own light or consciousness. If an individual could be found who had never felt a sensation, it would probably be impossible to convey to his mind any conception concerning it at all. One of the most remarkable facts in the whole circle of science, is that which consists in making the subjective objective to itself, the mind itself being the object of notice and research by the mind, subject and object in unity, the centre in which all the lines of knowledge meet. These views belong, however, to speculative science, rather than to physiology.

The question still remains, what is the physiological history of sensation ? It is conceived that a short description, with fundamental illustrations, will make the whole matter more or less intelligible, without resorting to the prevailing hypotheses of the day.

Sensation is that conscious or felt relation which obtains between the subjective and objective elements of nature : this felt relation requires, according to circumstances, sundry essential conditions : this felt relation is self-evident, and is not cognized by means of an intermediate entity or attribute called an idea, or a transmitted impression ; in a word, this relation is based on *immediacy*, not on representationalism. When I hear the report of a cannon, I do not hear the idea, or a transmitted impression of the report, but the report itself ; the felt relation between the cannon and the Me, is hearing. I smell a rose, not the impression of a rose. I taste an orange, not the impression of an orange. I see a man crossing the

street, not a man crossing my sensorium; I see him there, not an intermediate entity in my mind, called a transmitted impression of a man.

There is no evidence whatever to show that the subjective and objective require contact by means of an intermediate entity, idea or impression, other than the primary impression, in order to be sensationalized.

The immediacy of sensation is as self-evident as the reality of sensation; whereas, the present systems of physiology assign the whole process of sensational cognition to representation, intermediary causes, wholly fictitious, called, not ideas, as Aristotle called them, but transmitted impressions.

The present system of physiology, (independently of the reflex system,) has opened a road from the subjective to the objective, or rather from the latter to the former, not by means of Aristotle's refined films, phantasms or ideas, but by means of two sets of nerves, and two sets of impressions, which are not only entities, but material ones. It is not sufficient that the sensiferous nerve shall receive an impression, but there must be another material impression, which travels along a material route, the sensiferous nerve, to a central, material sensorium, on which the final impression is made. That an impression can make a second impression without its seal, without being seen, too, on the passage, or after its arrival, and without leaving any visible mark, is wholly incomprehensible. This theory assumes that the sensiferous nerves have no sensibility whatever, being mere conductors of impressions. These transmitted impressions cannot be metaphors, nor yet immaterial entities, since there is no known analogy, of the remotest kind, in all nature, showing that metaphors or immaterial impressions travel along material roads, whether constructed of soft cords or hard iron. No one can appeal to consciousness as evidence that there is a particular spot in the brain which is the exclusive seat of sensation; no one is conscious of travelling impressions, while every one has the evidence of intuition that impressions are felt at the part impressed, with rare exceptions.

All candid anatomists must admit that the motiferous and sensiferous nerves can no where be actually distinguished

from each other by any structural differences. They are, for any thing that is known to the contrary, identical, one and the same, indivisible and inseparable, with the exception of a single assumed difference, viz., the double roots of the nerves are supposed to indicate double functions—a theory which I have ascertained to be erroneous by vivisections performed about two or three months ago, (1851.) The irritation of either root produces motion, more in the anterior than in the posterior. This may be a normal endowment, though it is probably due to the traumatic lesion of muscles, bones, theca—not to name the concussion, and other injuries incidental to vivisection of the cord. A vivisection cannot be conclusive, if it introduces a new element or lesion incompatible with the function sought; the new element must not only be compatible with the function sought, but it must be applicable, and in some degree separable from the compound resultant. Thus, a blow on the occiput, the usual preliminary to the supposed separation of the cerebral from the spinal influence, is both a contradiction and a negation, because no one can appreciate its effect nor its duration. Sensation may be diminished, not destroyed, or may return in full force. In a decapitation, all the residual phenomena in the trunk must be independent of the brain.

Certain principles usually adopted in the interpretation of spinal physiology, are extremely unsatisfactory, not to say erroneous. For example, what warrant has the physiologist to conclude that the anterior roots are exclusively motiferous, because the animal moves when that root is irritated? On the supposition that this is really and exclusively the sensiferous root, what would be expected from irritating the same? By what other language than these very motions, could the speechless animal express pain? Who knows that these motions, so indicative of pain, are purely motiferous, and altogether painless? Both roots are sensiferous, as well as motiferous, for any thing yet known concerning their functions or pathological anatomy. Hence the double tracts, the sensiferous and motiferous, to and from a sensorial spot in the brain, how true so ever they may be, remain unproved.

The present system of representational physiology, exclu-

sive of the reflex system, expresses or implies four sets of impressions—two for the sensiferous, and two for the motiferous nerves. The impressions of the latter begin in the sensorial spot, travel along a special tract, and impress special motory organs. The reflex system has an entirely different set of impressions that do not go to, nor return from, the central sensorium in the encephalon, which impressions are said to be “physical in their nature, reflex in their action.” Here we have at least six kinds of impressions, all claiming to be physical, all travelling along physical roads, and yet all unknown, all incomprehensible, except the first, the only true one, so far as the objective world is concerned with the subjective.

That the roots of the nerves are double, is an anatomical fact, which no more proves their functions to be different, than the double roots of a tooth prove a functional quality. Sir C. Bell utterly repudiated experiments, and relied solely on anatomy to prove this double function, which was the only thing he claimed as new and true. Mr. Alex. Walker had taken the same ground, anatomy, and had published the same doctrine of duality, years in advance of Bell. That the almost entire medical world should acquiesce in this enormous fraud, is a fact unparalleled in modern history. (Walpole defined the word History, by the word Lie!) But this anatomical test utterly fails. There is nothing in the mere structure of the motiferous root, at least nothing known, showing that it is adapted exclusively to motion; nothing in the other root, from which sensation can be inferred; nothing in the anatomy, favorable to the hypothesis. Pathological anatomy fails to sustain this distinction. In the vast catalogue of motiferous or convulsive diseases, lesions of the motor tracts, and of the anterior roots are not found, nor even named, in any work, and the same is true of the sensiferous diseases, as palsy, et cetera.

That the almost destructive operations incidental to the cutting of the anterior roots should produce palsy, is a thing not to be wondered at, inasmuch as the essential conditions of motion are destroyed, or at least altered. The section of a nerve, and the consequent loss of motion and sensation,

does not prove that motion is exclusively inherent in that tissue. Fainting will still more suddenly abolish motion and sensation; so will the complete arrestation of the circulation, by ligature. Anæsthetic agents suspend both of these functions almost as suddenly. The nerve, the blood and the like, furnish essential conditions, not the sole exclusive agents or causes of motion.

The peripheral nerves are not mere insensible conductors to an unknown central spot, but possess an inherent sensiferous function throughout their remotest expansions in the special organs of sense, as well in the more diffused sense of touch. This diffused sensorium is an intuitive conviction as clear as consciousness itself. The relation between the subjective and objective, in sensational cognition, is immediate and direct, not intermediate, indirect and representational. All felt relations, having an objective origin, proceed from one class of impressions, the primary, and are cognizable at the point of contact, and simultaneously by the whole mind or subjective. The theory invented by Prochaska, now called the reflex system—that invented by Mr. Walker, now attributed to Bell, together with exclusively motory, sensory, excitor and motor tracts, and their corresponding entities, which travel on these roads, and which are called impressions, “physical in their nature,” are but hypotheses, unworthy of the advanced state of physiology in this enlightened age. Even the refined ideal system of Aristotle has no longer a place in metaphysical and psychological science.

By what moral code is an anatomist justifiable in stating mere opinions, as absolute anatomical facts? Let him expect charity for his opinions, none for his facts. Let him show the sensory and motory tracts; let him show the continuous, separate and distinct classes of efferent and afferent nerves joined to the encephalic sensorial centre; let him show two other separate and altogether different classes of nerves, the motors and excitors, which communicate with the spinal marrow, only being wholly independent of the brain, and mysteriously called the reflex system, “the true spinal system,” “the true spinal marrow!” These terms are not ironical! They are not intended as a satire on a kind of anatomy which

no eye, no microscope can reach, and which the professor of anatomy never condescends to show to his anxious disciples, and which, perhaps, no honest man in Christendom would swear to as so many physical facts before a court of justice. "The true anatomy" of the nerves cannot differ from that of the muscles, arteries or veins, that is to say, they can be demonstrated.

During a long life, the gigantic mind of Reid was actively engaged in overturning the theory of Aristotle, who maintained that the mind or sensorium could cognize nothing but ideas or transmitted impressions, not things—but the intermediate images or films, representing things. Berkeley, Hume and others, were able, by means of this doctrine, to show that, as impressions alone, and not things, could be objects of knowledge, there was not a particle of evidence to show that a material world existed, etc.

This doctrine of representational knowledge, banished from the speculative and psychological sciences, has found an asylum in physiology, under the name of transmitted impressions, of which there are at least five in number, with four roads, two reaching the sensorial throne, and two having their termini in the spinal cord, so that Aristotle himself would not recognise his original films. All these difficulties are avoided, by admitting the intuitive evidence of consciousness, namely, that the relations between the subjective, or the Me, and the objective, the Not Me called sensations or feelings are direct and immediate, as they seem to be without the intervention of any third entity, called an idea, or transmitted impression, which must first reach an unknown spot in the brain, before perception or sensational cognition can take place. The sensations referred to the eye, ear, tongue, nose or skin, have their seat in those organs, and not exclusively in a spot in the brain. To say that the special organs of sense, and the periphery of the body, are mere conductors, having no sensibility whatever, flatly contradicts universal experience. The true vocation of physiology, in this department of science, is to ascertain and fix the essential conditions and laws of sensation, without attempting to substitute representational fictions for intuitive principles.

The confidence with which several propositions have been advanced in this paper would be fully warranted, if time permitted the introduction of all the available evidence.

ART. V.—*Incontinence of Urine after the Operation of Lithotomy, successfully treated by Sulphuric acid.* By WM. S. HALSEY, M. D.

Wm. Wilcox, aged 45, the subject of the present case, had been troubled with the gravel for about 7 years. Latterly it began to give him great distress by the formation of deposits in the urethra and bladder, which, with an old, hardened, and close stricture, situated in the fore part of the urethra, leading from the external orifice, nearly to the fossa navicularis, caused so much obstruction to the passage of urine, that it led him to seek relief from a surgeon who removed from the spongy portion of the urethra, just behind the scrotum, a calculus about an inch in length, and half an inch in its largest diameter, and at the same time operated for phymosis, which, with the stricture, had been existing for a long time. So bad were these last affections, that it was not attempted to introduce a sound or catheter into the bladder, for the purpose of investigating further the case at the time. The patient expressed himself so much relieved by these operations, and as the surgeon who had operated left for Europe, he returned home without any more being then done. About six months after the symptoms of stone presenting themselves in an aggravated form, I was called to see him, when I found him suffering under the following affections: a very close stricture, which permitted the urine to flow only in drops, and which, with difficulty, allowed to pass a No. 1 catheter; a large vesical calculus, a fistula very small, the remains of the former operation of extraction, and more or less incontinence of urine. After dilating the stricture sufficiently to allow the passage of a No. 7 staff, chloroform was administered, and the single lateral operation of lithotomy performed to remove the stone, which proved not to be of very firm consistence. I managed to break it in three pieces, with the forceps, to facilitate its removal, which was difficult, on account of

its large size. The bladder I found much thickened and indurated. In six weeks from the time of the operation, the wound was entirely closed, and the patient recovered, with the exception of not being able to retrain his urine for any length of time. He was constantly obliged to wear cloths about the parts, and renew them frequently during the day, to keep himself anyway decent. Besides, he complained severely of the acute pain, caused by the passage of sandy particles, which were constantly forming, and passing off per urethra. After having suffered these annoyances for more than 4 months, he again applied to me for relief. Judging from the character of the stone which had been removed, and from his diathesis, which I had well satisfied myself was phosphatic, I prescribed as follows :

Acid Sulph. 3j.

Aq. Distil. Oj.

M. Coch. parv. sum. ter in die.

After taking this a few days, the formation of gravel seemed entirely arrested, and all appearance of it gone, and to my astonishment and great delight, the incontinence began improving, and in 4 weeks had completely subsided. While pursuing this treatment, his urine became very acid; so much so that all the cloths that were kept about the penis for the sake of cleanliness, with which the urine came in contact, were in a short time destroyed, and that too, without causing, he says, the slightest pain. It may be observed here, that after the operation, the fistula entirely healed up, and the stricture so much relieved that he now passes his urine in a full stream.

The question arises here, what could have been the cause of the incontinence in this case, that it should have been so soon relieved by the administration of the sulphuric acid? Had it been simple division of the sphincter vesicæ, which must always be necessarily divided in lithotomy, the incontinence would not have remained so long after the healing of the wound. The peculiar form of the stone, which had the shape of a pear, having a long slim neck, and the locality which it was found occupying at the operation, led me to suppose, be-

fore giving the acid, it might have been caused by ulceration of the neck of the bladder, produced by the stone situated in this place. But the short time in which this difficulty was obviated, precludes that idea. Was there a small calculus lodged in the neck of the bladder, that prevented the closure of the sphincter, and which was dissolved by the acid? or was it caused by the want of tone of the bladder, which the acid, acting as a tonic upon the general system, brought into healthy action?

Newburgh, N. Y., Nov. 1851.

ART. VI.—*Traumatic Tetanus*. By DANIEL AYRES, M. D., Surgeon to the Brooklyn City Hospital.

There are few darker pages on the records of medical science, than the history of acute traumatic tetanus. To those who are acquainted with the disease, it is here unnecessary to dilate upon the history, theory, diagnosis and endless forms of treatment which have accumulated upon the hands of the profession. Those who are not familiar with these items, will find an admirably written and very complete article, by Dr. Symonds, in the 4th vol. *Cyclopædia of Practical Medicine*. It is the practical results, the availability of medical treatment, that we now propose to consider. If the natural history of any disease is so clearly developed as to warrant us in drawing a conclusion, it is in this, that traumatic tetanus, unopposed by medical treatment, and even with the most judicious treatment, generally terminates in death.

The only therapeutical indications drawn from post mortem examinations, are such appearances found in the nervous centres and their appendages, which we are accustomed to consider the results of congestion, or the early stages of inflammatory action during life; yet these are not sufficiently invariable to satisfy those who have enjoyed extensive observation, and may even be questioned, whether these appearances, if they always existed, were the disease itself, or only the result of a continued and excessive draught upon the functions of these organs. At all events, if we believe with Dr. Marshall Hall, that the results of treatment are

among the most essential means in forming or correcting our views of a morbid process, the results of venesection and depletion do not justify the conclusion that the essence of acute traumatic tetanus is inflammation of nervous structure. Again, that it is "a disease of relaxation and debility," first propounded and acted upon by Dr. Rush, in this country, has been extensively followed by his successors, and, so far as we can estimate the alleged recoveries under any form of treatment, the stimulating plan has appeared to merit the most success. But it must not be overlooked, that these results include many cases of chronic and idiopathic tetanus, which differ widely and notoriously from the acute traumatic variety, in their relative amenability to medication; and likewise, that it has failed too often in the latter class to acquire the confidence or character of a specific. Perhaps we can afford no better estimate of the entire want of confidence, not to say desperation, to which disappointment has led, than the alternative suggested by an eminent London surgeon, Mr. Morgan, than whom few have had more ample ground for deciding the value of different plans of treatment. He has proposed to arrest the train of morbid phenomena, by induction of temporary paralysis, through the agency of the "Woralli or chatic" poison, and continuing its effects for a sufficient period, in the mean time supporting life by artificial respiration until the remedy has exhausted its action, or neutralizing its effect by the administration of the "ticunas." Dr. Symonds, (*Op. Cit.*) without endorsing this dernier resort, yet says, "we agree with Mr. Morgan, that it is incumbent upon us to look for new remedies, since the old ones have all failed. Upon this ground," he continues, "we are disposed to suggest a trial of strychnia, not that we have become followers of Hahnemann, but that it is a simple and undeniable fact, that disorders are occasionally removed by remedies which have the power of producing similar affections. It is quite unnecessary to explain this fact by an arbitrary principle, that an artificial irritation excludes a spontaneous irritation of the same kind. A more rational ground for an expectation of benefit from homœopathic medicines may be found in the consideration that such agents prove by their occasional pro-

duction of symptoms like those of the disease to be treated, that they act on the part which is the seat of the disease, and consequently, that there is a probability that in their operation on that part (whether it be in a sufficient degree to produce a similar disease or not) they may effect a beneficial change. Oil of turpentine, for instance, having been known to produce a discharge of bloody urine, might be rationally administered in a case of spontaneous hæmaturia, not because it has a tendency to produce this disorder, but because that tendency shows it to have a specific action on the vessels from which the hemorrhage takes place. As to the dangers incurred in the experiment which we propose, we think it sufficient to say, with an old writer, '*Satius est aliquid nonnullâ fiducia, vel cum periculo facere, quam ademptâ, spe certo perire; et potentibus extremisque præsidiis pugnare quam nihil agere.*'"

A reference to these statements is no less a matter of justice than of pleasure, both on account of their philosophical character and their bearing upon the chemical observations which illustrate their applicability. Nux vomica and its preparations have, until recently, been almost exclusively confined to the treatment of paralysis. Its great power has conspired, with other circumstances, to limit its use and obscure its properties; but cautious experience has gradually developed its value in many functional diseases, and the satisfactory results obtained from it in the treatment of chorea, hysterical tetanus and some forms of infantile convulsions, were additional reasons for its trial in the present case.

Matthew Kane, aged 12 years, was admitted into the Brooklyn City Hospital on the evening of the 24th August, with unmistakable symptoms of tetanus; of which the following history was elicited from his mother, and subsequently confirmed by himself: about one month previous, whilst playing barefoot upon a pile of lumber, he received what afterwards proved to be a splinter of wood, between the second and third toes. He experienced considerable pain on the occurrence of the accident, and continued to limp up to the present time, but remained at his work as assistant in the glass house, and had numerous domestic applications made to the foot. Four days before admission, his mother found a

foreign substance in the wound, and removed two splinters of wood, each about three-fourths of an inch long. Two days after this he complained of stiffness about the back part of the head and neck, which gradually extended to the jaws. The disease is now fully formed; he lies constantly upon his back, the body inclined backwards; countenance anxious and sardonic; the jaws may be forced open about a quarter of an inch with great difficulty, and he swallows with considerable effort; complains bitterly of stabbing pains which shoot from the ensiform cartilage to the spine, are paroxysmal, and return at intervals of a few moments; they are increased in frequency upon the slightest exertion, or any disturbance in his vicinity, and then the whole body is thrown into violent spasms, which assumes the form of opisthotonos; he has some thirst, a soft pulse of 96, and skin freely perspiring; he was caused to inhale chloroform, which produced anæsthesia rapidly, and without an unpleasant effect; whilst in this state, a probe introduced into the wound at the dorsal commissure of the second and third toes, passed obliquely through a sinus $1\frac{1}{2}$ inches towards the plantar surface of the foot; there was no discharge, and nothing foreign could be detected; a sharp-pointed bistourie was passed directly through the plantar surface, and divided the parts, which were dressed with lint dipt in spts. turpentine and covered with flax seed poultice; ordered chloroform to be administered during the night, according to the discretion of the house surgeon; also a large enema of strong soap suds, with Lac Fœtida, ʒj. and Ol. Turpentine, ʒss., to be given immediately, and the whole spine kept constantly covered with cloths, saturated in the following embrocation:

℞ Ext. Belladon.
Ext. Stramonii, ea. ʒj.
Etheris sulph. ʒiv. M.

The strictest quietude enjoined.

Aug. 25th, 12 m. Passed a night of great misery; clonic spasm constant, except when under the influence of chloroform, which was administered three times. Tonic rigidity has extended to the lower extremities and abdominal muscles. The enema brought away very offensive discharges, and he passed

a small quantity of urine. Ordered in addition : Strychnia, gr. $\frac{1}{12}$, to be given in solution every three hours.

6 P. M. No improvement; rigidity has extended to upper extremities, which are moved with great effort. Continue strychnia; let the patient remain for 20 minutes in a warm bath, containing, in solution, Potass. Tart. Antimonii, $\mathfrak{z}$ iv. Repeat enema of Fœtida and Turpentine every three hours during the night, and have the whole spine well rubbed with

R. Ol. Croton. Tiglii, $\mathfrak{z}$ i.
Lin. Saponis, $\mathfrak{z}$ iv. M.

Continue inhalations of chloroform, (which he now begs for.) pro re nata, and keep the patient under its influence at least one hour each time.

Aug. 26th. Had no sleep nor rest, except such as the anæsthetic has afforded. Continue treatment and repeat the warm bath, doubling the quantity of Tart. Antim., ($\mathfrak{z}$ viiij.) and let him remain in half an hour. To have at night :

R. Hydrarg. Prot. Chlor. gra. v.
Pulv. Doveri, gra. xii. M.

Aug. 27th. Slept several hours last night, and is decidedly more comfortable this morning. Clonic spasms much diminished both in violence and frequency. Pulse 96, respirations 44 per minute. No action from the bowels. A copious pustulation appears upon the back, and large vesication covering nine square inches between the shoulders, which is directed to be dressed with Ung. Cetacei. Ordered to take in emulsion :

R. Ol. Ricini, $\mathfrak{z}$ i.
Ol. Croton, Tiglii, gr. i. M.

Followed by Fœtida and Turpentine enema. Apply Tart. emetic bath (as before) to hips and lower extremities for half an hour, and give R. Pulv. Doveri, gr. xii. at bed time.

Aug. 28th. The bowels freely moved last night, but abdomen remains very tympanitic; had considerable sleep; clonic spasm much as yesterday. Tonic rigidity remains unabated. After great and painful effort, the jaws can be forced open about one-fourth of an inch, but fly back like a spring trap

when this is relinquished. His tongue is wounded in several places, and very sore. Ordered strychnine, increased to gr. $\frac{1}{8}$ every three hours; also strong chicken soup; anti-spasmodic enemas continued as before, and anodyne at night.

Aug. 29th. Patient is reported to have passed a far more comfortable night, and slept well. Clonic spasms greatly mitigated, and recur at much longer intervals, during which he is free from pain; but the tonic rigidity is so complete that on attempting to raise either heel, the whole body turns upon the occiput. The wound between the toes remains open with very slight and thin discharge, to which same treatment is continued. The respiration has heretofore been occasionally very much impeded. He has now considerable bronchial rale, and expectorates with difficulty; complains of some dryness about the fauces, and a sense of constriction. Ordered strychnia to be discontinued, and R. Ext. Stramonii, gr. $\frac{1}{4}$, to be given every three hours, or until the pupil indicates its constitutional effect; also, R. Ung. Hydrarg. Fort. 3i. to be well rubbed into the groins and axilla, night and morning.

Aug. 30. The clonic spasms are scarcely noticed by the patient to-day, but the spastic rigidity remains, and the tympanitis is very distressing. Continue enemas, mercurial frictions, and anodyne at night, with soup diet.

Aug. 31. m. Stramonium was omitted last evening, as the pupil began to indicate its specific action. Bowels acted freely under enemas, but discharges are unhealthy. Sleeps at short intervals, and expresses himself as better. Pulse 90 and feeble; skin cool; less perspiration. To have milk punch in addition to soup.

Sept. 2d. The alimentary canal continues very torpid, and the excessive accumulation of gas, now oppressing respiration, renders him very restless, and prevents sleep. He was directed the turpentine and fetida made into emulsion, with egg and peppermint water, but immediately vomited the medicine, with considerable bilious matter. Ordered to return to enemas, and continue frictions and anodynes.

Sept. 4th. Very little alteration is observable in the last two days. Ordered R. Sulph. Quinine, gr. iii. to be added to

his enema; continue frictions. Diet and punch as before, and opiate, if rest is not procured.

Sept. 6th. Patient has slept more, looks and feels better. Rigidity of all the muscles much diminished, can flex legs and thighs for the first time since Aug. 26th, but with effort. Tympanitis is decreasing; alvine evacuations, although still requiring enemata to procure them, are assuming a better character. We notice to day a fine pustular eruption, scattered over the whole body, probably from the tart. emetic baths; to continue treatment.

Sept. 9th. Progressive improvement. Had a free alvine discharge to day without persuasion. Sleeps well; pulse 84 and soft; respiration natural; occasional cough, with easy, mucous expectoration; jaws open at least half an inch, and with less effort. Tongue easily protruded; has a slight whitish, but moist coating. There is considerable general emaciation, but a good appetite for food. Muscular rigidity diminishes gradually, and he is able to turn himself in bed. Wound of foot is contracting, and looks healthy, and free from pain. Mouth is not in the slightest degree affected by the mercurials, though used twice a day since Aug. 29th; directed to omit all medicine, to have more solid diet, and an occasional warm bath.

Oct. 7th. Patient has steadily improved since last report. All the functions have acted regularly without medication. He has regained his flesh and spirits, and now walks about with easy and complete command of all his limbs. The wound in the foot is perfectly cicatrized, and he was this day discharged well, having been under active treatment about seventeen days.

In submitting these statements, it is hoped that there will not be imputed to us the fashionable ambition of deducing large results from limited premises, in favor of a specific remedy. In a sphere where so much remains to be accomplished, we think the record of every fact, which is really such, will be rightly appreciated, at least by those who possess the candor to consider, and the intelligence to estimate its true value. In the same spirit we would submit the conclusions which our own observations of this disease have suggested:

I. That the clonic spasm is the great source of danger in this disease, and that it effects this result by the interruption of respiration, and gradual but complete exhaustion of the nervous force.

II. That the cause of this spasm exists in a disordered function of the spinal ganglia.

III. That aid must be sought from remedies which act directly upon the spinal nervous system, and through which this irregular and excessive action may be controlled. Of this class of remedies we now possess little definite knowledge, and renewed investigation is demanded.

IV. That the specific effects of these remedies should be induced early, whilst the disorder is still functional, and before extensive molecular derangement or extravasations, have occurred in the nervous tissues.

V. That the use of such specifics does not contraindicate a resort to other remedial agents at the same time; but that a judicious, and even heroic use of them is not only justifiable, but consonant with rational therapeutics, alike conducive to the comfort of the patient, and the removal of the disease.

Montague Place, Brooklyn.

ART. VII.—*Remarks and Recommendations on the Professional Education of Dentists.* By JOHN TRENOR, M. D., Dentist, of New-York.

It is probably known to many of the readers of the *New-York Journal of Medicine*, that that branch of the medical profession, more immediately appertaining to the practice of dentistry, has recently been brought prominently before the public, by a distinguished practitioner of Philadelphia, Dr. Gardette, and that whatever differences of opinion there may be as to the views he sets forth, there can be none as to the elevated and disinterested motives by which he is actuated. As might have been expected, his views and positions have been warmly assailed by an able and experienced controversialist, Dr. Harris, of Baltimore.

Now, the chief object of the present communication is not so much to take part in this controversy, which is in the hands of those who are abundantly able fully to illustrate and sustain the views which they have respectively assumed, as to spread abroad

the impressions which a number of years of practical experience have presented themselves to the writer's mind, and which may tend to give increased interest and importance to the controversy itself, and possibly, too, to throw such light upon the topics under discussion as may lead to a clearer understanding, and a more just appreciation and decision upon the points at issue.

It is the purpose of the writer to show, that in the practice of dentistry, a thorough knowledge of medicine and surgery is absolutely essential to enable the practitioner clearly to understand and successfully to treat the cases which are constantly coming under his care, sometimes demanding all the skill, experience and acquirements which the most accomplished practitioner is capable of attaining.

That this may be the more fully demonstrated, and easily and clearly understood, it is proposed to treat first, of medical dentistry; secondly, of surgical dentistry; thirdly, of mechanical dentistry; and fourthly, of that course of professional education, by which these several branches can be best acquired and combined; which, with some remarks upon the mode in which this is now endeavored to be attained, will close this communication.

1st. *Of medical dentistry.*—It is a position, the correctness of which will be at once admitted, that in all general derangements of the system, and of local ones also, where the system becomes sympathetically involved, be they short or protracted, mild or severe, characteristic alterations and in the same ratio, are produced upon all the soft parts of the mouth. The altered actions of the several portions, resulting from disease, particularly of the stomach, or of any part of the mucous membrane, are by no signs more decidedly indicated, than by the changed sensations and altered aspect of the lining membrane of the mouth and tongue; hence the universal custom, in all deviations from health, of an examination of this latter organ, from the accuracy of the information it communicates, and from the greater facility with which it can be exposed for inspection. Whatever be the character or severity of this deranged state of the mucous membrane and soft parts of the mouth, the teeth, from their immediate connection with those parts, are necessarily exposed to, and are materially and injuriously influenced by those changes, be they mild or otherwise; whether from altered secretions of the parts, consequent upon derangement of distant organs, or simply from local irritation and inflammation; or, as frequently happens, from both these causes

combined. These are fruitful sources of evil consequences to the teeth, in all stages of existence. It may be proper here to remark, that as the degree of capability of resisting injurious influences on the teeth varies almost in every individual, so likewise does it vary in the same individual at different periods of his age. When the teeth first appear through the gums, they are softer in their texture than as the individual advances in years; so that in old age, they become, where they have been originally healthily formed, extremely hard; consequently, the same deleterious influences, if applied while young, produce infinitely more serious evils than they could do at a later period of life. Hence the necessity of greater attention to the health, at this particular period, on account of the teeth, even though these be perfect in their development. But, if, as most frequently happens, there are imperfections in their formation, and that perchance the health of the person be delicate or precarious, the closest personal and professional care and attention will be needed for their preservation. Not only does all observation and experience fully sustain the correctness of the foregoing remarks, but they establish, with equally unerring certainty, the destructive effects which all deviations from the standard of health exercise upon those important organs. Indeed, there are probably no two facts more popularly associated together, or more unequivocally correct in themselves, as cause and effect, than with bad health to have bad teeth. The influence of a healthy or diseased state of the system is in no particular more decidedly manifested, than upon the organs of mastication. Hence the obvious and absolute necessity that the practitioner who undertakes to treat the diseases of the one, should be familiar with the causes, their character, variety, &c., &c., which produce them in the other. It is true, that with the public and with most professional men, an equally popular, though erroneous impression prevails, that the medicines prescribed in the treatment of diseases, are mainly the causes of the defective teeth, so constantly met with, where the health has been disordered, and medicines necessarily administered. Upon this prejudice homœopathy rests one of its most plausible claims to superiority and to the public confidence, by assuming, that as it is the large quantities and active properties of the medicines administered to the sick, in all other modes of treatment, which are the chief, if not the only cause of the imperfections in the teeth so generally observed after attacks of illness, it follows, that as

their doses are both small and mild, they cannot exert any injurious influence whatever upon these organs. The facts of the case, however, are directly the reverse. For be it remembered, that it is the *disease*, and not the *remedies*, which act so mischievously upon the teeth; and so far, therefore, as the practice of this delusion tends, from its inert and injudicious treatment, unnecessarily to prolong or to aggravate the disease, in the same proportion is it more detrimental to the health and durability of the teeth. As to the unfavorable action of medicines upon those organs, it is a somewhat singular circumstance, that it should have been so very generally overlooked; but it is nevertheless true, that in the whole list of the *materia medicæ*, there are but two classes of articles which exert any objectionable agency whatever upon them. The one directly, as in the employment of acids for remedial purposes, and the other indirectly, as in violent and long continued salivation, causing the alveolar processes to be destroyed, the teeth to become loose or to fall out, and from the altered character of the secretions of the mouth, to originate decay about the necks and exposed bony surfaces of the teeth, and rapidly to extend decay wherever it had pre-existed. Its tendency, too, to develop other diseases, particularly of a scrofulous character, should also be enumerated among the indirect causes of its being prejudicial to their durability. The practice of severe salivation being now, however, entirely abandoned for the milder form of treatment, which requires merely, that peculiar odour of the breath, or metallic taste in the mouth, as evidence that the system is under the influence of the medicine, and to which extent no injurious effects upon the teeth, or their appendages, will be occasioned, cannot be fairly advanced as one of the objectionable causes, to which allusion has been made; and when, with proper precautions, which are easily observed, the injurious action of acids upon the teeth can be wholly prevented, this wide spread prejudice may be safely asserted to be entirely groundless. It is therefore manifest that the valuable services of the most useful class in the community, are often greatly underrated, and sometimes severely censured for consequences which they had no agency whatever in producing. But while the medical profession is justly vindicated from the charge of producing by their medicines, including acids and mercurials, those injurious effects upon the teeth, which are unquestionably caused by other influences, the effects of the latter medicines (mercurials) when

carried to excess, afford additional and conclusive testimony of what it is the chief purport of the present remarks to illustrate and to sustain, viz., the immediate and powerful influence for good or for evil, which the action of the soft parts of the mouth exercise upon the teeth themselves, in health or under disease.

From the consideration that in all general derangements of the system, whether idiopathic or symptomatic, the lining membrane of the mouth, and the connecting soft parts, partake likewise of this altered action, as set forth in the preceding statements, and that this again often materially implicates the teeth, we pass to a more practical illustration of some of the consequences of those changes, for the purpose of still farther strengthening the position here assumed. Among the variety of those changes there are some so stealthy in their commencement and early progress, as scarcely to attract any attention from the patients themselves, until the durability of their teeth, or at least of many of them, is seriously compromised. The changed secretions of the mouth, seeming gradually, but constantly, to soften and penetrate into the substance of the teeth, until considerable portions of their bony structure are entirely disorganized. There are others, again connected with derangements of the stomach, and depending upon or excited into action by the changes in the weather, and which are of very frequent occurrence, attended with a good deal of pain and irritation of the soft parts of the mouth, sometimes developing pretty active inflammation in those parts, producing very serious annoyance, and not unfrequently great pain and suffering, apparently in the teeth themselves, and which is much aggravated by any attempt to use the teeth for the ordinary purposes for which they are intended. Under such circumstances, the dentist is at once applied to, from the very natural inference, that such cases come more appropriately within his province. If he be without medical knowledge, and that perchance no defect can be discovered in the teeth, the patient is very coolly told that nothing of consequence is the matter with him, and that with time and patience, all annoyance will gradually subside. But if, unfortunately, some of his teeth are found to be decaying, and which most frequently happens, the mere mechanical or imperfectly medically educated operator, goes to work at once filling and filing, scraping and extracting, aggravating and procrastinating tenfold the patient's suffering, ultimately ending, in a great many instances, in swellings and ulcerations of

the gums, and the loss of one, or it may be of several of his teeth. Every experienced practitioner of dentistry, whose professional acquirements correspond with what the public has a right to expect, is constantly called upon for advice and relief in such cases, and must be forcibly struck with the woeful mismanagement, which, in numberless instances, befall the poor patients, from the ignorance or incompetency of those to whom they may have applied; for the least evil that can happen to them in such hands, is to be let alone. The educated and intelligent practitioner of dentistry, however, while he sees the impropriety of any present operations, as certain to produce aggravated sufferings, will at once be able to prescribe the necessary remedies for his immediate and effectual relief; or if the case be one complicated with much general derangement of the system or otherwise, beyond the responsibility which he ought to assume, and which if he be duly qualified for the position in which he is placed, he will have no difficulty in ascertaining, he will promptly direct his patient to the care and advice of his more experienced medical practitioners.

It would be an endless task to begin to enumerate but a tithe of the derangements of the system, in which the complication here indicated may and does occur. Every medical man will perceive them at a glance; but as a familiar and forcible illustration, and one of frequent occurrence, in which medical acquirements are so essential to the practitioner of dentistry, the influenza, with which, both in spring and fall, we are so regularly visited, may be justly presented as a striking example.

In these cases, the attack usually commences with slight irritation about the fauces; and on looking into the back part of the mouth, the edges of the anterior and posterior arches of the soft palate appear more or less inflamed, the inflammation extending frequently to the uvula, which is generally and sometimes considerably elongated. Soon fits of sneezing occur, with watery dejections from the eyes and nose, and a sense of uneasiness and fullness across the eyebrows and forehead. It now goes on rapidly to develop itself, and the progress of the attack, particularly if severe, is marked by a suspension of mucous secretions from the frontal sinuses and antrums, with a sense of weight and great uneasiness about those regions. Shooting pains begin to be felt through the temples and cheeks and sockets of the teeth, the latter seeming to be elongated or forced out of their sockets for some distance; are loose to the touch, and so very sore and sensitive that

they cannot be pressed together without severe pain, and to masticate the food is an utter impossibility. Indeed, the force of the disease seems to be often concentrated upon these organs. At night, particularly, the pain in or about their sockets is most intense, precluding all possibility of sleep, the greater part of the night being frequently passed in pacing the room, until at length, from sheer fatigue and exhaustion, the patient throws himself on his bed, and falls into a short but unrefreshing slumber.

It is at this stage of the complaint that the dentist is usually called on; and if he be deficient in medical intelligence, and particularly if the teeth be at all defective, and it more frequently happens that they are so, more or less, the poor patient is at once subjected to a routine of operations, at a time and under circumstances when none at all are admissible, and which are always attended with increased torture at the time, and certain to be followed by a long train of sufferings and evils, by no means easy effectually to remove.

The increased severity of the disease at night is doubtless owing to the greater determination of blood to the head in the recumbent posture, and the warmth of the bed almost invariably adds additional fuel to the flame. Whenever the patient complains of having been kept awake at night, this itself will be found a distinguishing symptom, indicating active inflammation of those parts, from simple exposure and irritation of the nerve of a tooth, and when depletion by general means will be essentially necessary, as by the use of active purgatives, and after the bowels have been freely evacuated, if much pain be still felt in the part, then from three to six leeches *on the gums* will give very decided relief; but in some very severe cases, the bowels being still kept soluble, local irritants, as synapisms, or even fly blisters behind the ears, may be used with great advantage, effectually to remove the inflammation, and entirely to subdue all irritation. Pedeluvia, before depletion, will be found to be objectionable, but after this has been generally and locally employed, they act very favorably. Change of position from a recumbent to an upright posture, will generally moderate considerably the pain, though when the attack has fairly set in, this will not always, or at least for some time, mitigate much its intensity. During the day, and while erect, the patient feels much easier; but after taking food, particularly of an exciting or stimulating nature, the pain is very apt again to recur, but more particularly

on retiring to bed, it is sure to run the same course as before ; and this is night after night repeated, until the remedies remove the disease, or the attack wears itself out, and the patient is gradually restored to his accustomed good health. In cases as acute as is here presented, the pulse, for the first two or three days, is a good deal accelerated, but is more of a nervous than of a congestive character. The skin is heated and dry, with frequent sensations of flushing. It is not, however, so much for the purpose of giving minutely the symptoms or treatment of this form of complaint, that the foregoing details have been entered upon, as to show, that besides the derangements which attack those organs, and their appendages, requiring the mechanical dexterity of the dentist, they are likewise subject to deviations from health, so grave as to require, in their treatment, the nicest medical discrimination, and in some instances, as will be presently shown, so complicated, as quite as much to embarrass, even the experienced medical practitioner, as they are entirely beyond the comprehension of the mere mechanical manipulator in dentistry.

As the most useful and probably satisfactory mode of illustrating and sustaining the correctness of the foregoing views, the following cases are given, as taken from many of a similar character, which have from time to time fallen under the observation and professional attention of the writer, and which are such as all practicing dentists, be they medically educated or not, are frequently solicited to advise upon and to treat.

Case of Mr. P. S.—He is 28 years of age ; has always enjoyed excellent health until attacked by his present complaint, from which he has endured, for a long time past, severe physical and mental suffering. The former from the frequently recurring and sometimes intense pain, and the latter, because he feared that from the inability of his medical advisers to reach the seat or comprehend the cause of his disease, and the little benefit derived from the various remedies employed, some malady of an incurable character, was gradually but steadily undermining his health, and must ultimately and utterly destroy his constitution.

His illness began some eighteen months ago, with shooting pain on the left side of his face, between the angle of the lower jaw and the ear. At first it annoyed him chiefly at night, leaving, during the day, a sensation of soreness in the parts, particularly when rubbed. It soon spread, however, extending over the side

of the face and head, and down the neck to the shoulder. The attacks now became spasmodic, and intensely painful, recurring during the day, as well as at night, the latter being repeatedly passed without sleep or rest of any kind. His medical adviser, considering it an inflammatory neuralgic affection, in one of rather a full habit, with a good deal of excitement, whether a cause or consequence, or both, of his disease, which partook very much of the character of inflammatory rheumatism, put him under a course of pretty active purgatives, local depletion by leeches, local irritants, low diet and rest. This course was pursued until he had become considerably enfeebled, but his sufferings seemed rather to augment than to be diminished; at least there was no alleviation of the local troubles, and as he became weaker, his nervous system was much more sensitive, and consequently he felt the pain from the disease more acutely. No benefit resulting from this mode of treatment, he was directed to have his teeth closely examined, to ascertain if the root of the evil might not be there located. He had had them put thoroughly in order shortly before the commencement of this complaint, and on the affected side, the lower back tooth, which had been filled at that time, was very sensitive during the operation, but not more so than several others elsewhere located, which had been, likewise, at the same time, operated upon. The result of this examination was, the unqualified opinion of the dentist, (a mere mechanical one,) that his teeth had no agency in producing, nor were they in any way connected with his disease.

He was now put on a course of strengthening medicines, as columbo, valerian and gentian, &c., and nourishing diet, under which there seemed to be an improvement, though occasionally he would have very violent returns of pain. He continued to get better, for two months or more, when it again and suddenly returned with all its wonted severity. As it now seemed to assume more of a periodic character, he was put on the use of quinine. Fowler's solution was in addition tried, as well as other medicines of this class, with the effect of seeming to control the complaint for a while, when it would again return with increased violence. With these remedies, a variety of others, chiefly of a local character, were had recourse to, during the severest periods of the paroxysms, the suggestions of sympathising friends and experienced nurses. The state of the weather had obviously considerable influence upon it. When that changed suddenly to

cold and damp, the attacks were decidedly worse. At one time it appeared to have passed away, more from wearing itself out than from any controlling influence pertaining to any of the articles which were, from first to last, employed in the endeavor to overcome it. This calm proved, however, to be but of short duration, for it very soon returned with all its former severity, without any apparent exciting cause, except it was from having taken a slight cold. From that time to the present he has seldom been entirely free from it for any lengthened period; the best medical aid seemed to be powerless in subduing it. As might be supposed, his health began seriously to suffer, not more from the effects of the disease and the variety and severity of the remedies employed, than from the mental anxiety and distress in the apprehension that he was henceforth to be burdened with some lingering, and painful and incurable malady. So entirely had either medicines or dentistry heretofore failed in affording him any relief, that his calling upon me, was more from a kind of forlorn hope, a catching at straws—that some benefit might be possibly obtained, than from any confident feeling that such was at all likely to be the case.

After duly weighing all the circumstances of this interesting case, as here given, the first inference which forced itself upon the mind, was, that previous to the operations on his teeth, he had no inconvenience whatever, and that his system, up to that period, was in a perfectly healthy condition. Nor after the most minute examination was there any good reason for supposing that his disease was caused or kept up by any constitutional difficulty, all the functions being as regularly and as healthily performed as could be expected, under his present and past state of nervous sensitiveness and excitement. As the attacks of pain always began on the left side of the face, and about the same spot, or near to it, and as this was quite in the vicinity of a tooth which had been operated upon immediately before his malady appeared, and likewise, as it was during their existence, exceedingly painful, suspicion was naturally attracted to this point. On examining this tooth closely, it was obvious, to the experienced eye, that a diseased state of its internal pulp existed, which, of itself, was sufficient to cause and to account for all that he had suffered. This conclusion was warranted—1st. Because, up to the time of the operations on his teeth, his health had been perfectly good, without ache or pain of any kind. 2d. While this particu-

lar tooth was being operated upon, it was exceedingly sensitive. 3d. Whenever afterwards, the painful spasms came on, they always commenced in this particular location. 4th. There was not now any more cause, general or local, from derangement in his system for the disease in question, than before it first made its appearance, except the one to which it is particularly attributed. 5th. The evidence which the appearance of the tooth itself afforded of internal disease; and, 6th. Experience having repeatedly presented cases and consequences in many particulars extremely similar; so much so, as to induce the opinion given to the patient, at the first interview, and without having made any examination of the parts, that this tooth would be found to be the sole cause of all he had endured. On removing the filling from it, the correctness of the opinion was fully verified. It had been filled very carefully with an amalgam of silver and quicksilver, and so far as the filling was concerned, had occasioned no injurious influence or irritation whatever. But on taking out this filling, all obscurity was at once cleared up. When operated upon before, the decay was found to have penetrated so deep as probably to have reached, or nearly so, the internal canal of the tooth. Of this the operator had been warned by the depth and direction of the decay, as well as the peculiar character of the pain while operating; he therefore desisted, before removing all the caries, and filled the cavity carefully. The caries, however, continued to progress, and if it had not then, it soon did reach the organized pulp within the canal of the tooth. The contact of this carious matter always produces irritation of this pulp substance, followed by inflammation, and ultimately by its total disorganization. This is sometimes slow in being accomplished, while in others it takes place very rapidly. It often, too, proceeds with little or no sensation or uneasiness to the patient, while, again, its progress is marked by a great deal of severe pain and suffering. But the most singular peculiarity, and one often met with in such cases, and some others, which will be presently noticed, and which, when it does occur, involves them in much obscurity, and adds greatly to the difficulty of a correct diagnosis, is the fact, that the sensation of pain, instead of being felt where the cause of irritation is applied, and where the irritation itself exists, is at a point more or less distant, and where no local evidence of disease can be detected. All experienced and observant practitioners are familiar with the circumstance that

often, while operating upon a tooth, particularly in those of nervous temperament, it is by no means uncommon for them to refer the sensation, even though it be a very painful one, to a tooth distant from the one under treatment, in which there is no peculiar feeling whatever; the sensation being sometimes referred to a tooth in the opposite jaw, the point of impression and that of recognition being different, and often quite distant. So was it in the present case.

After taking out the filling, and pressing upon the soft decayed surface beneath, a severe spasm, such as he had been accustomed to experience, was instantly excited. This was likewise the case while removing the decay; whenever the instrument pressed upon this spot, a repetition of this severe nervous spasm was invariably produced, causing the patient to exclaim, "that is the seat and source of all the agony I have endured!" After carefully removing all the carious bone, the internal pulp was entirely exposed and clearly visible, and its appearance fully indicated the cause of all that the patient had suffered. Immediately under where the bone above was in a state of caries, a small portion of the pulp was in a state of disorganization, of a dark color, fœtid odor, and a discolored watery matter oozed out. All doubt was now removed, as to the cause, character and mode of cure of the case. With the oozing out of this discolored watery discharge, he expressed himself entirely relieved from every uneasy sensation, unless the part was pressed upon. The moisture now discharged, had no doubt kept up slight pressure upon the pulp, morbidly sensitive as it was, from the presence and contact of this diseased and disorganized portion, which was all sufficient to produce the painful spasmodic attacks he had so long endured, and which this slight watery discharge entirely relieved, as he experienced no more uneasiness from it, unless it was touched; with directions to put a small quantity of tannin, on a little piece of moist cotton, very lightly into the cavity, twice a day, he was dismissed for Newport, to recruit his health, and from which he returned in about eight weeks, so rosy, robust and cheerful, as scarcely to be recognised. He had not had the slightest sensation of pain, either in the tooth or elsewhere during his absence, and on examination, the internal pulp of the tooth was found to be totally destroyed. This was carefully and entirely cleaned out, and the cavity accurately filled. From that time forward, there is good reason to believe, that he has had no farther annoyance

whatever. Here, it must be admitted, is a very satisfactory illustration of the inability of the medical practitioner, with all the aid of the mere mechanical dentist, to cope with cases of such and similar character. That which follows is intended to show how inaccurate are the views, and injurious the practice, of medical men, in cases left entirely to their control, but which more properly belong to the dentist, merely observing that it is one of very common occurrence.

Was consulted by Miss —, as to the character of a swelling on the right side of the inferior maxillary bone, chiefly about the root of the second bicuspid, and extending some distance each way. It was quite hard, except in the centre, which indicated something of fluctuation, and was here somewhat tender to pressure, but elsewhere it was not so. This bicuspid tooth was very much decayed, and the internal vessels or pulp entirely disorganized. Some weeks previous she was attacked with severe pain on this side of the face. At night, particularly, it was so intense, as to preclude all possibility of sleep, and this recurred several nights in succession. This led her physician, to whom only she applied for relief, to the impression, that it was simply a neuralgic affection, of an intermittent character, as the parts did not present, he thought, sufficient *ocular* evidence of inflammation to account for the severity of the pain. He therefore put her under a course of quinine, in pretty ample doses, for several days, not only without relief, but being each succeeding day decidedly worse, until finally it commenced swelling, and as this increased, the pain gradually and entirely subsided. Her anxiety as to the character of this swelling was much augmented, from having had a similar state of things some two or three years previous, at the roots of the second tooth behind the one now the seat of disease, and which finally opened through the lower part of the cheek, and on the outside of the face, accompanied with a discharge which could not be cured but by extracting the tooth, and causing a very unsightly scar for ever after. In the present instance, as well as in the former, what should have been done, was not done, and what was done, was wrong. The following case exhibits the sad consequences resulting from the treatment by a dentist of unquestionable mechanical dexterity, but without medical or surgical skill or acquirements.

Was requested to visit, in consultation with her surgical adviser, a very eminent one, Miss H., who had been suffering

from an affection of the right side of her face for nearly three months, and notwithstanding every effort of her dentist for her relief, and who had been in attendance from the commencement of her attack, she was growing obviously and every day decidedly worse. By direction of her surgeon, who had but recently seen her, leeches had been applied to the cheek to reduce the swelling, and the bite of one of them had opened into an abscess under the eye, from which a copious discharge of pus issued, and which had been constantly augmenting in quantity. Previous to the discharge under the eye, matter had issued from different openings in the gums of that side. On looking into her mouth, a sad spectacle presented itself. *All her front upper teeth, including the first bicuspid on the left side, and first and second bicuspid and first large molar tooth on the right side, had been, one after another, extracted*, by her dentist, under a hope, as he expressed it, that each one might turn out to be the cause of the disease, and by such removal the complaint be cured. The soft parts were greatly swollen from the effects of these several operations, and the disease growing constantly worse, from the inflammation which necessarily follows the extraction of such a large and continuous number of teeth. The sole cause and origin of the suffering of this unfortunate patient was located at the root of the right superior wisdom tooth, which, being extracted, the disease began at once to subside. While her dentist, being ignorant of the cause, character or symptoms of disease, and which a knowledge of medicine and surgery would have imparted to him, went on committing one error after another, until he had produced this unnecessarily dilapidated state of her mouth, her appearance and her health.

The first of the foregoing cases will show clearly enough the inability of the medical practitioner, aided though he be by the mere mechanical dentist, fully to comprehend, or successfully to treat diseases of such and of similar character. In the second instance is pointed out a class of complaints which more correctly come within the sphere of the educated dentist, but he must be fully instructed in all the requisites of his department. The practitioner of medicine is obviously incompetent to their management. In the third is exhibited the incapacity of the mere mechanical dentist even to comprehend, much less to prescribe, understandingly, for the treatment of diseases on which he is nevertheless constantly consulted. While by the dentist,

whose course of study has made him familiar with the human system in health and in disease, local and general, such cases are treated with as much certainty, safety and success, as any other class of ailments can be by the most intelligent and experienced practitioners of medicine.

2d. On passing to the consideration of surgery, as forming a necessary element in the professional attainments of the dentist, we are forcibly struck with the effect of habit in familiarizing and thus reconciling our minds to what, in itself, is exceedingly inconsistent, if not altogether incorrect. While the uselessness of medical knowledge to the practitioner of dentistry is attempted to be maintained by those of weight and authority, at least on most other professional topics, the necessity of surgical knowledge to the dentist is very generally conceded, yet there is no hazard in asserting the impossibility of a thorough proficiency in surgery, unaided by or unconnected with a corresponding degree of medical acquirements, yet custom, and even authority require, that the dentist should possess the one, while it denies, in this case, the necessity of the other. If it were possible to make them two separate and distinct branches, and in their pursuit and application entirely independent of each other, and it were asked which of the two would be most useful to the public, and most needed by the dentist, the preference must at once be given to medicine. It is to cases coming under this department, that his attention is almost constantly required, and they are also more frequently the cause of, or otherwise complicated with, derangement of the whole system. While in those more strictly of a surgical character, professional advice is not so often sought for or necessary, unless, indeed the operations of filling, filing, cleaning the teeth, &c., &c., be classed under this head, but which more appropriately belong to the mechanical department. These remarks, however, must be understood as intended to show the comparative importance of the one over the other, but not that either can be under any circumstances dispensed with. In fact, that an intimate acquaintance with surgery is likewise necessary, in the practice of dentistry, it is the object of the following remarks to demonstrate.

That the mouth should be liable to a variety of diseases, frequently entirely local as to extent, is by no means singular, when we remember the vicissitudes of heat and cold, and the endless varieties and sometimes entirely opposite characters of the innu-

merable articles which constantly pass into it; add to this the causes of irritation and disease, of which the teeth are often either the exciting cause or the immediate source, and it will be but reasonable to expect that the soft parts of the mouth must often be the seat of derangement, sometimes very severe in its character. Of these, a very numerous class are consequent upon a disordered state of the system, particularly of the stomach or bowels, as has been elsewhere demonstrated, and which do not properly come under the head of surgery; but those which do belong to this division, are still numerous and complicated enough to call for, in their treatment, discrimination, intelligence and experience. When required to investigate the character, or account for the intense suffering so often experienced in the derangements of those parts, both physicians and surgeons are too apt to overlook their peculiar anatomical structure, to permit them to arrive at clear or correct conclusions in those cases, and their mode of treatment is consequently too often injudicious and unsuccessful. The second case which has been detailed is, by no means, an exaggerated illustration of what but too frequently takes place where the physician or surgeon only directs the treatment. From the peculiar structure of those parts, some of the signs of inflammation, most obvious in tissues less dense and more yielding, are here so trifling or obscure, and the pain so intense, as to induce the attending physician to believe that it is chiefly an affection of the nerves, without any particular irritation or derangement in the parts immediately surrounding or connected with them. It is from this view of the matter that quinine and other tonics are so freely and frequently administered. It is, however, very generally a purely inflammatory affection, and, if the structure in which it is located was more yielding in its character, so that it could readily expand or swell, we should then have here, as in other pliable and more fleshy tissues, redness and swelling in proportion to the heat and pain; in fact, the pain would be less, as the pliability of the structure was greater. It is from this inability to expand, therefore, (supposing the cause of irritation to be equal,) that the pain in these cases is so much more intense, demanding, of course, the more prompt and free employment of depleting remedies. After the use of these means and the application of counter irritants, in some very nervous temperaments, especially if the affection has been of some duration, tonics are often useful in breaking a diseased habit, and will materially aid in restoring the parts to a healthy

condition. Again, this same structure frequently leads to errors of opinion as to the character of the swelling and enlargements, which are not unfrequently here met with. The most intelligent and experienced surgical practitioners are sometimes entirely at fault in their diagnosis of them. The following case, which is by no means an isolated one, will so clearly illustrate the correctness of this position, as to render all argument in the matter entirely superfluous :

Was requested to assist at an operation for the removal of a malignant tumor, situated on the right superior maxillary bone, covering chiefly the external plate of the socket of the first molar tooth, in a child of about 12 years of age. Several medical and surgical gentlemen were present, and the operation was about being proceeded with, when it was deemed necessary first to extract the first molar tooth and the eye tooth of the same side, it being intended to make a semi-circular section of the jaw, high enough to pass a little above the swelling. The writer assured the gentlemen present that there was nothing of a malignant character in the tumor, and that the only operation necessary was the removal of the molar tooth, together with a proper course of treatment to restore the child's health, which was very much disordered and enfeebled, when all evidence of disease would very soon and entirely pass away. They nevertheless still persisted in removing three of the teeth, and in cutting out a piece of the alveolar socket, but which would have been very soon absorbed, after the loss of the teeth. It was now found that the piece of socket cut away was *perfectly round*. This effectually opened their eyes as to the true state of the case, and of course further proceedings were wisely deemed unnecessary. Now the error in diagnosis here, was owing to the peculiar character of this texture ; had a tumor of similar feel and aspect been located in parts less dense and more yielding, there would have been more warrant for the opinion which had been given of the nature of this case, in the first instance. As the parts involved in the swelling were not removed by the operation, and as the child soon after fully recovered, the error in deciding the case to have been malignant, was made conclusive. As a dentist constantly sees these parts, under all their varied aspects of health and disease, if he has been made familiar with medicine and surgery, it would be very improbable that he could ever commit such serious mistakes. There are minor matters of constant occur-

rence, requiring, on the part of the dentist, the kind and extent of knowledge here contended for. The treatment of fistulous openings at the roots of teeth, which are constantly met with, demand an entirely different course from what in other branches of surgery would be necessary. The diseases of the gums, whether from local or general causes, involving, as they do, the loss or preservation of the teeth, as well by decay as by destruction of the alveolar sockets, forming a very extensive class, calling for a kind of knowledge which must not be expected from, and certainly will not be possessed by, the mere mechanical practitioner. The simple allusion to these matters must satisfy every intelligent mind that the education of the dentist must reach infinitely beyond the mere ends of his fingers, if the capabilities of the profession are intended to be made fully available, and the interests of the public are duly and truly regarded.

3d. In taking up the third branch of inquiry, viz., mechanical dexterity and proficiency, as a requisite attainment in the education of a dentist, as its necessity is so obvious and so universally conceded, it might be supposed that very little need be said, or would be required under this head. There are, nevertheless, some very mistaken ideas entertained upon this subject, not merely by the public and even by the medical profession, but by the professors of dentistry themselves, and which makes it necessary, therefore, to discuss this matter somewhat at large.

It is a very commonly received, though exceedingly erroneous opinion, that mechanical ingenuity and dexterity are the chief, if not the only acquirements which are necessary to the successful practitioner of dentistry. That it is an essential auxiliary, is most certain, but that it is not the most difficult to acquire, nor the most important in practice, it is believed can be very clearly and conclusively established. On this point, the writer is particularly desirous of being clearly understood. The mechanical aptitude and tact which the most successful operator requires, is that which most persons, with ordinary dexterity and faithful application, can readily and certainly attain. It does not surpass, and probably on a fair comparison, scarcely equals that, without which a surgeon can never attain to the rank of a successful and an accomplished practitioner. In what more properly constitutes the mechanical department of dentistry, embracing mainly the setting and arranging of artificial teeth in all their details, as well as all operations upon the natural teeth, *in situ*, though most

generally requiring a good deal of management and dexterity, and always the nicest attention to neatness and finish, yet it is always within certain limits which are of constant occurrence, so that the path, though with many deviations, seldom passes beyond certain bounds, all the peculiarities of which are so frequently met with, that a few years experience makes him necessarily familiar with them. It may be called a somewhat complicated, though it is a beaten path. In the pursuit of surgery, on the other hand, the mechanical requirements are by no means within similar bounds, and while their sphere is infinitely more extensive, and sometimes even more complicated, their dissimilarity, the one from the other, is equally apparent; nor are any of them met with sufficiently often in the most extensive individual practice, to furnish an equal amount of experience, as in dentistry, in a given time.

In thus endeavoring to define the true relative position of mechanical, to medical and surgical dentistry, it must not be understood as an intention to underrate its true value, inasmuch as a proficiency in this department is quite as essential to the duly qualified practitioner as in either of the other branches. But as higher mental qualifications, both natural and acquired, are requisite to obtain a knowledge of medicine and surgery, than in the mechanical department, and as the former, when fully understood and properly applied, are capable of conferring more important benefits in relieving or removing the evils inseparable from our organization, they necessarily take precedence in measuring the scale of importance to which each is respectively entitled.

Such, then, is an exposition of the attainments which every practitioner of dentistry should have acquired, before assuming the responsibilities which devolve upon him, in entering upon his professional career.

That those who present themselves before the public for their confidence and support, whose capabilities rest solely upon their mechanical expertness and ingenuity, are more than one-third educated, is to make a very liberal allowance for all that, in a professional point of view, they are entitled to; and that with all such (and they are but too numerous) a lamentable deficiency exists, is most certain, and which demands from those who can in a reasonable manner aid in mitigating or removing the evil, that they should be anxious, earnest and prompt in applying the remedy.

4th. In proceeding to point out the mode in which this can be most effectually accomplished, the fourth division of our subject is at once entered upon, viz. : in what manner that course of education, necessary to a practitioner of dentistry, can be best acquired.

As already indicated in the preceding pages, medicine and surgery, which rank first in importance and are most difficult to attain, should receive the largest portion of his time and attention ; in fact, they should be as thoroughly mastered as if they were intended to constitute the chief objects of his future career. For it must be borne in mind, that after he has once entered upon his professional pursuits, and particularly when his time shall have become much occupied with its duties, his opportunities of practical improvement and experience in those branches will necessarily become materially circumscribed, while the necessities for this kind of knowledge will be daily augmenting. He should, therefore, be the more diligent in gaining every possible degree of proficiency in them, while he may have the time and the opportunity. Having such objects in view, no one, it is presumed, will undertake to deny or to doubt, but that a well organized medical school affords the most efficient fountain from which the knowledge here indicated can be most effectually drawn. When it has been obtained, in accordance with the rules and requirements of our medical schools, he may be considered as having mastered full two-thirds of what should constitute his professional attainments. The next step in his career is the application of the principles he has now become familiar with, to the speciality to which it is his intention to devote himself ; and here it is that the deficiency in our medical schools becomes apparent. There is not, it is believed, a medical school in the country, in which either of the professors of the practice of medicine or of surgery ever make the slightest allusion, in their lectures, to this speciality, the professors of anatomy being the only ones who touch at all upon the topic, and, for all practical purposes, the little they do say is altogether useless ; in fact, it must be considered as totally neglected. That this is wrong, it is presumed, will not be doubted, but the extent to which it is so, notwithstanding all the arguments and illustrations contained in the preceding pages, is but faintly traced. Under our present imperfect system, therefore, when the student of dentistry has fully qualified himself, by attendance on lectures, in perfecting himself in the two branches of medicine

and surgery, their practical application to the cases which constantly come under the care of the dentist, with all their peculiarities, which are neither few nor simple, and which have been elsewhere dwelt upon somewhat in detail, together with what appertains to the mechanical department, is now only to be had in the private office of the preceptor. Of the benefits to be obtained from this source, every one conversant with the study of medicine is perfectly familiar, and to the student of dentistry it is equally necessary and useful. But that there are also advantages in both departments, from public lectures, which no private office or instruction can afford, is equally undeniable. Of the very large number of those who practice this speciality, a great many, it is believed, never avail themselves of this source of improvement; one cause of which, no doubt is, that their previous attainments have not been such as to enable them properly to estimate the usefulness, or even to comprehend the necessity of so doing, but the most influential one may, with great justice, be attributed to the facility with which those in the practice of the profession receive, as pupils, to instruct, *only in the mechanical department*, those who never have, nor ever intend properly to qualify themselves, either in medicine or surgery.

To the serious consideration of the trustees and faculties of our respective medical institutions, this subject strongly commends itself, for if the evil is ever to be corrected, it is by them only that it can be effectually done. If it should receive from them that attention to which, from its importance, it must be admitted that it is entitled, all these difficulties and impediments could be speedily and entirely removed, and this branch of the profession would be rendered infinitely more successful in practice, and more respectable in character, and far more extensively useful to the public.

The most obvious, and, it is believed, the only certain mode by which ends so desirable could be obtained, would be by constituting a professor who should give a regular and full course of lectures on this branch in our medical schools, and in this way, its true principles and correct practice would be as effectually inculcated, and its peculiarities and difficulties, whether medical, surgical or mechanical, as fully explained and as clearly demonstrated, as in that of any other department of medical science. The public, too, would soon draw the line of distinction between those who were, and those who were not properly qualified, simply because it is its interest to do so; and the effect would be,

that charlatans and impostors would greatly diminish in this particular pursuit, if they did not entirely disappear. In fact, every reflecting mind must be perfectly satisfied, that in every department of human pursuit, but particularly in medical science, and through all its branches and ramifications, the surest safeguard to the public against injury or imposition, is in the inculcation and diffusion of intelligence, by means of a well organized system of instruction.

These are not the only considerations, however, which press upon the attention of our trustees and faculties, the advantage of a regular course of instruction on dentistry, in our medical seminaries. Of the very large number of students who resort to our medical schools, it is probable that two-thirds of them, possibly more, become resident practitioners in the country, or in locations where duly qualified dentists are not to be met with, and consequently these physicians are constantly called upon for advice, and are frequently compelled to the performance of many operations in this branch, but with what benefit to the public, may be easily judged of from the entire want of all means of instruction on this subject, in all our medical colleges, as at present organized. This is a state of things so obviously wrong, that it ought not to be allowed to exist beyond a period when a remedy can be applied.

So far, too, from such an additional professorship decreasing the number of students, it is conceived that it might be so arranged as very materially to add to them.

Throughout the foregoing pages the position is so decidedly taken, of the entire want, up to the present period, of any efficient systematized course of instruction in dentistry, that a few remarks here, for the purpose of explanation and elucidation, it is hoped will not be considered misplaced or unnecessary.

It has been a leading object in the preceding remarks, to establish the paramount importance of a thorough acquaintance with medicine and surgery, as well as mechanical knowledge, to the practitioner in this particular branch, before he can be considered fully qualified for the performance of its duties.

As our medical schools are open to all who choose to resort to them, and as students of dentistry can there obtain far the most important part of their professional education, it is obvious, that to those who choose to take the time and pains, and can command the means, together with the aid of private instruction in the

office of a preceptor, they have always had, and still have, the means to qualify themselves in this particular branch. But this is a much more circuitous, tedious and expensive mode of proceeding, than if it were attached, as already recommended, to our medical colleges, as a part of their regular course of education; and this no doubt has been, too, a very influential reason why it has not been oftener resorted to. But there is a much more serious disadvantage in the way than even this view of the matter presents. There is no compulsion as to the length of time the student shall pursue his preparatory studies; there is no examination to test the student's competency to become a practitioner; nor can the public look to any responsible and reliable source for evidence of the student's qualifications. It has not been assumed, therefore, that an efficient course of education could not, heretofore, nor cannot now be obtained, because it would not be correct to do so, but that it has been, and still is, under such disadvantages, that very few have been induced to avail themselves of it. This is the less to be wondered at, when it is known, that in the face of these difficulties, the inducement is held out to students, by those in the practice of the profession, to give them instruction in their offices for a few months only, and then countenance, by the sanction of their names, these imperfectly educated students in presenting themselves professionally before the public. Such temptations are too strong to a large majority of students in their early educational career, to be resisted. And that such irregularities do prevail, to an immense extent, among a large number of those in the practice of this speciality, is too notorious to admit of doubt or denial.

While these restraining influences continue to operate, the difficulties complained of will continue to exist, and numberless uneducated practitioners will still be found to prevail.

Under the plea of remedying all these evils, what are termed dental colleges have been recently brought into existence. Conscious of the wants in this branch of the medical profession, and of the obvious inefficiency of a large number of those who appear in the capacity of its practitioners, and a belief taken, if not altogether for granted, certainly without sufficient investigation, that these institutions must necessarily remedy the deficiencies so generally felt and justly complained of, some of the members of the medical profession have accorded to them a degree of countenance and approbation, to which it can be easily shown,

that they are by no means entitled. They come before the public with such confident promises and plausible pretensions, and as at present constituted, are so decidedly inefficient, that they are a greater drawback to improvement than if they had never existed. They profess to remedy an evil, which they most effectually and glaringly magnify. They hold out the idea of giving a complete and finished course of instruction on dentistry, while full two-thirds of what should be taught, and that the most important, too, viz., all the instruction which every medical school inculcates in medicine and surgery, it does not enter into their arrangements, nor do they possess the ability, with any degree of usefulness or benefit, to perform.

Throughout the preceding pages, the absolute necessity of a thorough medical and surgical education to a practitioner of dentistry, has been demonstrated by an array of facts sufficiently numerous and imposing, and, it is hoped, by arguments sufficiently clear and convincing, fully to establish the correctness of the position which it is the object of this communication to elucidate and to maintain. Where, then, it may be asked, and under what circumstances, can this knowledge be best obtained? Obviously, in a well organized medical school *only*. Such a school as could equally well qualify a physician, a surgeon, an aurist, an oculist or a lithotomist; and no institution which is incapable of educating the latter for their professional career, is at all more competent to impart the requisite degree of knowledge to the former. It should ever be borne in mind, that the public have nothing to apprehend from a man's understanding his pursuit in life too well, and to the medical profession throughout all its branches, is this remark more particularly applicable.

PART SECOND.

CRITICAL ANALYSIS.

ART. VIII.—*A Practical Treatise on the Diseases and Injuries of the Urinary Bladder, the Prostate Gland, and the Urethra.* By S. D. GROSS, M. D., Prof. of Surgery in the University of Louisville; Member of the American Medical Association; Author of "Elements of Pathological Anatomy," &c., &c. With one hundred and six Illustrations. Philadelphia: Blanchard & Lea. 1851. 8vo., pp. 726.

Clinique Medico-Chirurgicale, du PROF. LALLEMAND. Tome Premier. (Art. Retrecissemens de l'Urèthre. Affections de la Prostate.) Paris, 1845.

Medical and Surgical Clinique of PROF. LALLEMAND. Vol. I. (Article Strictures of the Urethra, Diseases of the Prostate Gland.)

Bibliothèque du Médecin Praticien. Tomes Troisième et Quatrième. Maladies des Organes Génitaux chez l'Homme. Paris, 1845-46. pp. 1466.

(*Library of the Practical Physician.* Vol. III. and IV. Diseases of the Genital Organs in man.)

Traité Pratique sur les Maladies des Organes Genito-Uriinaires, par le DOCTEUR CIVIALE. Paris, 1850-51. 3 vol. in 8. fig. pp. 1728.

A Practical Treatise on the Diseases of the Genito-Urinary Apparatus, by Dr. CIVIALE, &c., with plates.

Traité des Rétrécissemens Organiques de l'Urètre, &c., par VICTOR PERREVE. (Ouvrage placé au premier rang pour le Prix d'Argenteuil, sur le rapport d'une commission de l'Académie de Médecine.) Accompagné de 3 planches, et de 32 figures intercalées dans le texte. pp. 344. Paris, 1847.

A Treatise on Strictures of the Urethra, by VICTOR PERREVE, &c.

- *Maladies des Voies Urinaires et des Organes de la Génération*, par le DOCTEUR DUBOUCHET. Dixième édition. Paris, 1851. pp. 396. *Diseases of Urinary Passages, and of the Organs of Generation, &c.*

Urinary Deposits, their Diagnosis, Pathology and Therapeutical Indications. By GOLDING BIRD, A. M., M. D., F. R. S., F. L. S., &c., &c. pp. 428. London, 1851.

On Stricture of the Urethra and Fistula in Perineo. By JAMES SYME, F. R. S. E., Professor of Clin. Surgery in the University of Edinburgh, &c., &c. Edinburgh, 1849. 8vo., pp. 72.

On Stricture of the Urethra, its Pathology and Treatment; Comprising Observations on the Curative Powers of the Potasse Fusa in that Disease; with cases. By ROBERT WADE, F. R. C. S., Senior Surgeon to the Westminster General Dispensary, &c., &c. 2d edition, greatly enlarged. London, 1849. 8vo., pp. 247.

A Treatise on the Cure of Stricture of the Urethra, with Practical Observations on the Treatment of Spermatorrhœa by Cauterization. By F. B. COURTENAY, M. R. C. S., E. London, 1851. pp. 121.

Practical Observations on the Treatment of Stricture of the Urethra and Fistula in Perineo, &c., &c. By JOHN LIZARS, late Prof. of Surgery to the Royal College of Surgeons, and Senior Operative Surgeon to the Royal Infirmary of Edinburgh. Edinburgh, 1851. pp. 91, with plates.

Pathological and Practical Observations on Strictures and some other Diseases of the Urinary Organs. By FRANCIS RYND, A. M., M. R., I. A., Surgeon to the Meath Hospital and County of Dublin Infirmary, &c., &c. London, 1849. 8vo., pp. 196.

[Continued from Vol. 7, p. 377.]

In resuming our remarks on the diseases of the urinary organs, of which the treatise of Prof. Gross formed the basis, we shall not dwell upon his observations under the head of "Urinary Deposits," as we believe he lays no claim to originality on the subject.

Next in order, we come to the consideration of *Urinary Calculi*, their nature, causes and different methods of treatment. After quoting the statistics of 5,376 cases, mentioned by Civiale, in his Treatise on Calculous affections, to show the frequency of the

disease among children, (2,416 children,) he observes: "Children are more subject to this disease in certain districts than in others, and the same is true in regard to adults. In the United States, a larger number of children are affected with this disorder, in Kentucky, Ohio, Tennessee and Alabama, than in any other region; Pennsylvania, Virginia, Maryland, the two Carolinas, Georgia, Florida, Louisiana and Arkansas, also furnish a considerable number of cases. The inhabitants of Missouri, Iowa, Wisconsin, Michigan, Indiana, New-York and New-Jersey, are comparatively exempt; and in the New-England states generally, a case of calculus of the bladder is so rare as to excite the surprise of the observer. In Canada and the other British Provinces of North America, the disorder is also very unfrequent; at all events, none of the surgeons of these regions have acquired much reputation as lithotomists, and but few cases of stone are brought from thence into this country. The same remarks are applicable to Texas, Mexico and California, as I have assured myself by repeated inquiries from respectable and intelligent practitioners in those territories." Now, we have an impression, that Dr. Robert Nelson, who fled from Montreal to this city, some few years since, in consequence of the political disturbances in Canada, claimed to have performed lithotomy in upwards of 60 cases. Dr. John C. Warren, of Boston, (Report of the Committee on Surgery of the American Medical Association,) has operated upon 30 cases; and in the American Journal of the Medical Sciences for July, 1849, Dr. J. Mason Warren has reported 8 cases of stone in the bladder, which, from the dates given, must have come under his care in two years. The fact, that so many cases should have occurred in the practice of a single surgeon of Boston, in so short a period as two years, will doubtless excite the alarm of those who, from the perusal of Dr. Willis' article on calculus, in Costello's *Cyclopædia of Practical Surgery*, (particularly that part communicated to Dr. W. by Dr. J. B. Flint, of Louisville, p. 566,) had formed an exalted opinion of the temperance of the Bostonians, a city where, according to Dr. Flint, "at present (about 1839) no one drinks punch;" and they will naturally conclude that the inhabitants have resumed the use of that villainous compound of lemon-juice, rum and sugar, sometimes called *punch*, and which, Dr. Flint says, was the standard drink with all classes, and on all occasions, among the Bostonians, some fifty years ago, and to the (supposed) discontinuance of

which beverage, Dr. F. fondly ascribed their happy exemption from stone. In corroboration of Prof. G.'s assertion, that children are more subject to the disease in certain districts than in others, we may mention, that of 21,000 admissions in seven years, at the Hospital des Enfants, in Paris, the average number of cases was less than 4 per annum; and at the St. Marylebone workhouse; in London, where, for twenty years, the average admission was from 401 to 500 in the year, not one case occurred. "Colored persons," says Prof. G., "appear to be remarkably exempt from calculous complaints. Whether this is the case in all countries where the negro resides, I am not informed, but it is certain that the circumstance obtains in an eminent degree in the black population of the Southwest. During a residence of ten years in Kentucky, I do not recollect to have met with a solitary example of gravel or stone in a colored person. My impression is, that Dr. Dudley, in his large calculous practice, has never cut more than two or three individuals of this description. The circumstance is the more suprising, when it is remembered that the colored people of that region are constantly exposed to hard labor, and that their fare is often of the coarsest character."

The report of the results of 15 operations for lithotomy, by Dr. P. C. Spencer, of Petersburg, Virginia, (*Amer. Jour. of Med. Sciences*, July, 1850, p. 103,) would lead us to receive, with some qualification, the remarks of Prof. G. on the exemption of the negroes of the southwest, for of Dr. Spencer's 15 cases, 6 were blacks. In his observations upon the influence of climate in the formation of urinary concretions, we find the following statement, which certainly is not confirmed by the report of those who have practiced in India. "In the East Indies, stone is comparatively unusual, though not so much so as was formerly imagined."

Now Mr. F. H. Brett, in his *Practical Essay on some of the Principal Surgical Diseases of India*, published at Calcutta, 1840, states, that calculi are very frequent among the natives of India; and that the late Mr. Barnard cut about 40 at the city of Benares, and that he himself had cut 4 in one day, all residing in the same neighborhood. In all, he had attended upwards of 100 patients affected with stone, during his attachment to the Bengal Medical Service. From what has been already stated, it is evident that we are as yet ignorant of the full extent of the influence of climate or food in the formation of calculi; and, as Prof. G. very pertinently remarks, "Much of what has been advanced is

wholly conjectural, and, therefore, scarcely worthy of serious attention. Patient and multiplied observations in different parts of the world, are alone competent to furnish us with any real and substantial light; for these we must wait, before coming to any positive conclusion."

The section on the "*Physical and Chemical Properties*" of stone, is illustrated with 11 wood cuts, taken from the author's treatise on Pathological Anatomy. After alluding to the names of those who have distinguished themselves by their researches in this respect, such as Scheele, Bergmann, Wollaston, Brande, Marcet, Fourcroy, Prout, Berzelius, Henry, Scharling, Taylor and Bird, he makes honorable mention of the labors of Prof. Peter, of Kentucky, who analysed eighty-one calculi contained in the museum of the medical department of Transylvania University. We shall only advert to one of the species of urinary concretion, which, as Prof. G. states, "is very rare." Out of the specimens which Dr. Peter examined, he found but 2 containing cystine. Dr. J. Mason Warren has reported, in the *Amer. Jour. of Med. Sciences* for July, 1849, a case of cystic oxide calculus, which he successfully removed by lithotritry; and in commenting on the rarity of this variety, he notices the fact, that at the time of the publication of his work on calculi, in 1840, (1838 is more correct,) M. Civiale had met with but 4 cases of it; (Oct. 19, 1851, M. C. informed us that he had *now* met with 8,) and that in the Hunterian Museum, out of 649 calculi, there are but 3 of the cystic oxide. Dr. Prout remarks, that of this rare form, 4 out of 7 museums contain no specimens; and that in St. Bartholomew's, Guy's and the Manchester Hospital, there are only 5. Dr. Golding Bird, (*Urinary Deposits*, 3d Lond. Ed. p. 186,) observes, that in a well remarked case, which fell under the care of Mr. Luke, at the Lond. Hospital, extensive disorganization of the kidneys co-existed, with a cystine calculus.

Symptoms.—Prof. G. gives us an excellent summary of the symptoms of stone in the bladder, but the following quotation, if Sir Benjamin Brodie's observations be true, should have been somewhat modified. "The pain," says Prof. G., "is also greater where the calculous affection is complicated with disease of the kidneys, ureter, prostate gland, urethra, testis, anus or rectum. Now Sir Benjamin informs us, that an enlargement of the *prostate gland* sometimes produces a considerable abatement of the symptoms of stone, a fact which he thus explained:—The

more urgent symptoms caused by a calculus, arise from its coming in contact with the internal orifice of the urethra ; but when the prostate is enlarged, so as to form a tumor projecting into the bladder, this is in a great measure guarded against, as the stone becomes lodged, as it were, in the hollow behind the tumor, and is thus prevented from falling down on the neck of the bladder. However, in cases of enlargement with ulceration of the prostate, as in three instances which came under his observation, Sir Benjamin remarks, that the sufferings of the patients are greater than he had ever before witnessed "in persons laboring under the same, or, I might almost say, under any other disease." (*Op. Cit.* p. 138.)

Sounding.—After noticing the fact that some lithotomists prefer the common silver catheter to the solid steel sound, on the ground that it is more convenient when it is necessary to inject the bladder, or draw off the urine, Prof. G. observes, that this advantage is not compensated by the disadvantages of the more obscure noise and sensation, which such an instrument yields from its collision with the calculus. "The gum-elastic catheter," he says, "is unworthy of reliance, and should never be used by any one who has a proper respect for his own credit, or for the welfare of his patient." This, certainly, seems rather strong language to apply to a proceeding which has the decided approbation and sanction of so distinguished a surgeon and so experienced a lithotomist as Sir Benjamin Brodie.

"In some cases," says Sir Benjamin, "a calculus which has not been discovered by means of the sound, is at once detected by means of the elastic gum catheter." This is an observation made by Sir Everard Howe, the correctness of which I have had frequent opportunities of verifying. "Judging merely from the texture of the gum catheter, I should never have believed it capable of affording such certain evidence of a foreign body in the bladder as I know that it does from experience." (*Op. Cit.* p. 144.)

In the operation of sounding, Prof. G. directs the surgeon to take his position on the left side of the patient, as in catheterism. The objections to this position we have already noticed, whilst speaking of the latter operation. The authority of M. Civiale is also against this position. In his *Traité de l'Affectiion Calculuse*, p. 469, he thus remarks :—"Il est plus commode pour le chirurgien de se placer à la droite du malade ; la main qui tient la sonde, est alors dans une position naturelle, est mieux à même d'appré-

cier et les difficultés qui peuvent se présenter dans l'introduction de l'instrument, et les dispositions anormales susceptibles de nuire à la précision des donies qu'il recherche." Prof. G., in adverting to the dangers of this operation, mentions a case which occurred to himself, and which nearly proved fatal, though it was performed "with all possible gentleness." In his remarks under this head, he notices the fatal cases related by Sanson, Civiale, Mr. Fletcher, Mr. Crosse and Prof. Horner. In vesical auscultation, he is not disposed to place much confidence. "I should hardly feel at liberty to cut into my patient's bladder, if I had no better or more satisfactory evidence of the existence of the stone than what was derived from auscultation, whether executed in the ordinary way, or as suggested by Ashmead, or as practiced by Velpeau and other surgeons. M. Civiale, (*Op. Cit.* p. 475,) seems also disposed to place very little reliance on the aid to be derived from these means, or "ces innovations," as he calls them, "dont aucune n'a été adoptée et ne mérite de l'être." Prof. G. observes, that by sounding, it is usually not very difficult to form a tolerably correct idea of the *volume* of a stone; and Sir Benjamin Brodie remarks, that, though we cannot actually measure or determine, accurately, the size of a stone, we may, nevertheless, form some notion on the subject, which will not be far from the truth. M. Civiale, on the other hand, (*Traité Prat. et Hist. de la Lithotritie*, p. 87,) states, that in cases of "*racornissement*" of the bladder, one, or even several small stones, may appear to be much larger than they really are. Cases of this kind, he observes, he has frequently met with, and they have occurred to other surgeons. In these patients the bladder contains but a small quantity of urine, and if we inject it, the fluid is instantaneously repulsed. In sounding these cases, the thickened and hardened walls of the bladder rest upon the stone, which can be neither circumscribed nor isolated; and in almost every instance it is supposed to be of a magnitude which it does not possess. Roux performed lithotomy in a case of this kind, and Civiale states that he himself resorted to the same operation on account of the supposed size of the stone. In his *Traité de l'Affecti^{on} Calcul^{use}*, p. 489, he records a case in which Dupuytren performed the high operation, the lateral method being contraindicated, in the opinion of Dupuytren and his assistants, by the dimensions of the calculus. The bladder having been opened above the pubes, after 20 minutes search, he extracted a stone,

the largest diameter of which did not exceed 18 lines, its smallest being only 7 or 8 lines. Civiale also states, that since the above operation was performed, lithotomy has been practiced at the same hospital, which was expected to be attended with many difficulties, on account of the supposed volume of the stone, but that it itself escaped by an opening which had been made unnecessarily large. From the facts above related, we should be inclined to feel some misgivings about Sir Benjamin Brodie's rule, as applicable in all cases, for obtaining a more precise knowledge of the size of a stone. This rule is as follows:—"Measure the calculus, by causing the convex part of the sound to traverse its upper surface from one extremity of it to the other. When the bladder is full of urine, strike it with the sound, or with the end of the gum catheter. Observe what quantity of force is necessary to push it out of the situation in which it lies; and, accordingly as it is displaced easily or with difficulty, so you may form an estimate of its weight and magnitude." If M. Civiale would imply that *all* cases in which the bladder is affected with "*racornissement*," this organ is capable of containing but a small quantity of urine, he is mistaken; as in cases of this kind, Thibaut has drawn off more than two quarts of urine; and the instances recorded by Rodolphe Zuinger, Littre and Le Clerc, are opposed to such an assertion. (Vid. *Traité de la Cystotomie sus-pubienne*, par M. Belmas, p. 60.)

Errors of Sounding.—After adverting to the numerous cases upon record, where patients have been subjected to lithotomy, even by such men as Cheselden, Dupuytren, Roux, Crosse, &c., &c., and no calculus has been found, he relates two instances of the kind with which he is acquainted. The circumstances which may lead to the commission of the error are chiefly pointed out and minutely detailed. As illustrating the fact, on the other hand, that a stone may be present and yet not be detected by the sound, a failure which, as he observes, has occasionally occurred "to men of the most consummate dexterity," he mentions the case of a Capt. Harding, of Philadelphia, in whom Sir Benjamin Brodie, after a thorough exploration of the bladder, failed in detecting the stone, which was promptly done by Dr. Physick, after the captain's return to America. This stone, "of considerable size," was successfully removed by the lateral operation. The numerous errors of this kind, collected by Civiale, in his *Traité de l'Affecton Calculense*, pp. 477, 78, show that when they occur,

as in the instances recorded by Cheselden, Pelletan, Verzascha, Benevoli, Duret, Rivi re, Marcellus, Donatus, Chesneau, Valentin, Riolan, Morgagni, Cavillard, Tolet, Colot, Deschamps, Chopart, &c., &c., mistakes may happen even in the hands of the most experienced surgeons. It certainly would seem to be the part of discretion, if after carefully searching, we find no stone, to imitate the example of Van Swieten, (commentaries,) who says, *nunquam pronuntiabat calculum non adesse, sed simpliciter affirmabat se non invenisse calculum.*

In his remarks upon the operation of sounding, we are surprised to find that Prof. G. makes no allusion to the use of the lithotritry forceps, the superiority of which instrument, for detecting a stone and measuring its size, is so strongly maintained by Civiale. (*Op. Cit.* p. 495.) In his *Traiti  Pratique et Historique de la Lithotritie*, p. 96, he relates a case in which Amussat, Recamier, Roux and Breschet failed, by the ordinary means, to detect the stone, but which was readily accomplished by the lithotritry forceps. He refers, also, to another case at the Hospital du Midi, in which Ricord met with the same results. Civiale admits that these "explorations nouvelles" are almost always productive of more pain than the ordinary means, and sometimes are followed by inflammatory accidents, on which account they should not be resorted to on every occasion, but only when "elles sont absolument necessaires." Mr. Skey, in his recent work on *Operative Surgery*, p. 529, has recorded a case which, in the end, proved fatal. He observes :—"I sounded a man for stone. The stone was very large, and was got within the blades of the lithotritry forceps with difficulty, but I made no attempt to break it; at the end of a fortnight I repeated the examination with great care. This was followed by pain in the bladder, intermittent fever, and he died in two months of diseased kidney."

Under the head of "*Pathological Effects*" of stone, Prof. G. notices those, sometimes, produced by *spontaneous fracture*. The serious consequences which occasionally occur from this circumstance, are strikingly exemplified in the instance which he quotes from Liston's *Elements of Surgery*. From the facts recorded, both by ancient and modern writers on Surgery, there can be no doubt, however, that this accident sometimes leads to a perfect cure of the patient, and, as remarked by Deschamps, (*Traiti  de la Taille*, vol. 1, p. 351,) "beaucoup de calculeux, surtout parmi les femmes, ont  t  d barrass s, sans avoir pris aucun sp cifique, et

par les efforts seuls de la nature, non seulement, d'une quantité, prodigieuse de pierres, mais encore de pierres d'un volume considerable." In the *Transactions of the Royal Society of London* for 1731, Dr. Laurence Heister gives the history of a patient who voided fragments, which at length amounted to more than 200, after which the discharge subsided, and the patient was restored to health. A similar case, together with two others, in which the result was never known, came under the care of Sir Benjamin Brodie, and are noticed in his *Lectures on the Diseases of the Urinary Organs*, pp. 140-41. Besides the cases of spontaneous fracture recorded by Dr. Prout, Mr. Crosse, Velpeau and Civiale, among the moderns, we may also observe that they have been described by Tulpus, (Lib. 4, cap. 37, p. 333;) Detharding, (*Collect. des Thes. de Haller*, tom. 4, p. 355;) Geoffroy, (*Mem. de l'Acad. des Sciences de Paris*, 1739;) Robert Whytt, (*Essays of the Med. Soc. of Ed.* vol. 6, 163;) Morand, (*Mem. de l'Acad. des Sciences de Paris*, 1741;) Deschamps, (*Traité de la Taille*, tom. 1, p. 343,) and by Borrich and Rousseau. It is a curious fact, that most of these patients, at the time of discharging the fragments, were under the influence of specific treatment; and as this forms the subject, next in order, discussed by Prof. G., we shall dwell upon it for a moment. He observes, that by appropriate and well directed treatment, a concretion may become a comparatively harmless tenant of the bladder, and a state of torture be converted into one of elysium. This fact has led to a belief, which he thinks not altogether unfounded, that urinary concretions are sometimes dissolved in the bladder, and voided with the urine. The phosphatic calculi are most easily affected by medicated injections, and nitric acid (2 drops to the ounce of water) the best solvent.

He remarks that he has no experience with this mode of treating stone, and supposes few surgeons in this country have, as most of the patients are from a distance, and anxious to return home as soon as possible.

Lithotripsy.—Professor G. remarks, that to Civiale, beyond doubt, are mankind indebted for the invention of an operation, which threatened at one time to supersede lithotomy, and struck terror into the minds of the knives-men. He is not of those who look upon him as one "on whose birth the genius of good luck has waited, and for whom the bowls always run aright," (see *Brit. and For. Med. Rev.*, October, 1841, p. 414,) but considers the in-

vention as the result mainly of his own labors and ingenuity. "Mankind," says Professor G., "are not long, at least in modern times, in detecting and rewarding merit. Civiale has already outlived the persecutions of his enemies, and he now enjoys the enviable reputation of being the first lithotriptist in the world."

Twenty-seven years have now passed since Civiale performed his first successful operation, and though, to use his own language, "les chirurgiens nationaux et étrangers ont eu la facilité d'assister à mes opérations," especially since 1829, the period when a special ward in a hospital (the Necker) was devoted to this operation, lithotripsy has, for some cause or other, been less generally adopted out of Paris than humanity at least would seem to have required. Some five years after Civiale's first operation in Paris, lithotripsy was performed at the Westminster Hospital, London, (July, 1829,) about which period Costello was laboring to make known the advantages of the new method in that city. In Dr. Gibson's *Institutes of Surgery*, (ed. of 1845, vol. ii. p. 270,) we find an extract from a letter "lately received" from Mr. Crosse, the well-known lithotomist, of Norwich, England. In this letter he states, that "the use of lithotripsy, as a substitute for lithotomy, is rather fading here. We hear less and less of the practice," &c., &c. The following extract, also, from the *Brit. and For. Med. Chir. Rev.* for January, 1848, shows, even at this late period, a state of things certainly not very creditable to British surgery. "We have observed," says the reviewer, "in the books and journals of the day, in the lectures of practical men, in the wards of our hospitals, and the conversation of our friends, what we consider to be proofs that lithotripsy has not yet met with a just appreciation on this side the channel—that the use of instruments which experience has shown to be imperfect or dangerous, is still persisted in by many—that surgeons do not prepare themselves for operating on the living, by acquiring the requisite manual dexterity by practice on the dead, and, consequently, that very often the method is blamed for unfortunate results, of which the operator alone is guilty; and lastly, that preparatory and after-treatment are not attended to with sufficient care."

Can American surgery boast of its superiority in this respect over that of Great Britain? We sincerely believe that the remarks of the writer just quoted, severe as they are, would justly apply, with but some few exceptions, to the majority of American surgeons.

"In this country," says Professor G., "lithotripsy is still in its infancy; in fact, it can hardly be said to have received fair play from the hands of the lithotomists. Dr. Dudley, who has operated more frequently for stone than any surgeon in America, has never, I believe, employed lithotripsy; and the same is true of some of our other practitioners. Those who have busied themselves most with this operation in this country, are Dr. Randolph, Dr. Gibson, Dr. Pancoast, of Philadelphia, and Dr. N. R. Smith, of Baltimore; the first of whom, unfortunately, died too soon for the cause of surgery, which he was so nobly engaged in cultivating. Many other surgeons have occasionally resorted to it, but comparatively few have made it the subject of their special study and practice. The operation was first performed in the United States by Dr. Depeyre, of New-York." *

We have strong grounds for believing that British surgeons are now beginning to feel that it is their duty to resort more frequently to a method which, instead of a mortality of 1 in 5 19-50, (see *Brit. & For. Med. Chir. Rev.*, for January, 1848,) the result of *British lithotomy* has, in the hands of Civiale, been followed by death but once in 40 13-14 cases. The reviewer, to whom we have just alluded, observes, that their experience, as far as numbers go, contrasts very unfavorably with that of Civiale, as in 33 cases 5 died, a result which, according to his own admission, is due, not to the method, but to the want of skill on the part of the operator. That lithotripsy is now more commonly performed in Great Britain than it has been, we infer from the fact, that a London surgeon, in a recently published work on operative surgery, (Skey's,) declares that *lithotripsy* is the rule, and *lithotomy* the exception; and from the proceedings of the Path. Society of London, reported in the *Lond. Med. Times* for December, 1850, Mr. Charles Hawkins, (who is the assistant of Sir Benj. Brodie,) remarked that he had seen lithotripsy performed several hundred times, from which we infer that it is a favorite proceeding with Sir Benjamin. This operation we have also seen performed by Mr Stanley, with a skill unsurpassed even by Civiale himself.

The merits of Jacobson's lithotriptor, Professor G. considers equal, if not superior, to that of Heurteloup and Weiss. A wood cut is given of the latter, with the rack and pinion modification of Professor Fergusson, an instrument now much used even by Civiale,

* N. Y. Med. Journ., Feb, 1831.

especially in those cases where the stone is of large size. Jacobson's lithotripter, we believe, has been more employed in this than any other country. In France and Great Britain we have never seen it used. Among the favorable circumstances which this operation demands, Professor G. observes, "there must be no stricture of the urethra; enlargement of the prostate; sacculation, ulceration, hypertrophy or permanent contraction of the bladder, and no disease of the ureters and kidneys. Even an excess of morbid sensibility of the urinary passages is incompatible with the operation; the operation is inadmissible where there are a number of calculi; age constitutes no valid objection to the operation. If the general health is good, if there is no organic disease of the urinary apparatus, and if the manipulative processes are conducted with the requisite care and skill, it does not matter how old or how young the patient may be; he will have a reasonable chance of recovery."

Strictures of the urethra undoubtedly add greatly to the difficulties of this operation; but these obstacles may be overcome, and lithotritry successfully performed, as proved by the cases related by M. Civiale, in his *Traité de la Lithotritie*, p. 150. The same observations apply to enlargement of the prostate. (*Op. Cit.* pp. 151. 163.) On this subject, also, we may remark that Mr. John Adams, in his recently published work on the *Diseases of the Prostate Gland*, (London, 1851,) proposes to obviate the inconvenience arising from hypertrophy of the prostate, by turning the patient on his belly, and seizing the stone or fragments of stone with the lithotrite in this position, so as still further to comminute it, when, by repeated washings, its escape may be facilitated, (p. 84.)

Chloroform, as in the cases reported by Dr. J. Mason Warren, (*Amer. Journal of Med. Science*, July, 1849, p. 47,) may destroy, in many instances, that excess of morbid sensibility of the urinary passages which Prof. G. regards as incompatible with the operation. The use of this agent, Prof. G. thinks, should be avoided, except in cases of children, as, in his opinion, it is desirable that the patient's mind should be perfectly clear in order to inform the surgeon if he has seized the mucous membrane of the bladder. In another place, whilst noticing the objections urged against Jacobson's lithotripter, among which especially is its liability to pinch the coats of the bladder, he states that this is not an easy matter, for a skilful surgeon, in any case. In reply to a question recently proposed (Oct. 19, 1851) by the writer to Civiale, in per-

son, he informed us that he did not often resort to the use of chloroform in lithotripsy, as, in his opinion, in the majority of cases so slight is the pain that it is not required, but he admitted that he sometimes did employ it, as in the cases where it is so strongly recommended by Dr. J. M. Warren. M. Guersent informed us, on the other hand, that he almost always places his patients under the influence of this agent, when about to perform lithotripsy. From the *London Lancet*, of Aug., 1851, (Am. Ed.,) we learn that Mr. Cushing, than whom but few more judicious surgeons can be found, occasionally, at least, makes use of chloroform, as in the case reported, when he operated on a boy fourteen years of age. As to the inadmissibility of the operation, when there are a number of calculi, we will only observe that both Leroy and Civiale report several cases in which they successfully removed a number of calculi, Civiale, indeed, having crushed forty at a single sitting. The practicability of performing lithotripsy in children has long since been satisfactorily established. That it is the *best* operation on young children, we think remains yet to be proved. M. Guersent recently informed us that he frequently performs it on children, and that he operated successfully on one aged only eighteen months. Civiale observed, that the youngest on whom he had operated was two years of age. If, however, the statistics of other lithotomists exhibited a mortality like that which has followed lithotomy in the hands of M. Guersent at the Hospital des Enfants, (9 deaths in 60 cases,) it would seem the duty of the surgeon to perform lithotripsy on children more frequently than they are in the habit of doing. We believe, however, that *lithotomy* is in these cases generally followed by more successful results than has attended the operation of M. Guersent. That the above is the true ratio of mortality at the Hospital des Enfants, we are informed by M. Guersent himself.

Prof. G. does not allude to the extent of his own experience in lithotripsy, but we have reason to think that it has been limited. If, therefore, he has failed to present this subject in a manner complete and satisfactory as has been done by Amussat, Segalas, Leroy, Civiale, Costello and Heurteloup, &c., it surely need not surprise us. Whilst much may be found in his observations on lithotripsy, of great value to those who are about to attempt this operation, it cannot be denied that much has been omitted, which is of essential importance to be known by those who expect to resort very frequently to this proceeding. Indeed, Prof. G. very

candidly observes, "To such of my readers as are desirous of being enlightened upon the subject, the recent work of Dr. Civiale, of Paris, entitled "*Traité Pratique et Historique de la Lithotritie*," published in 1847, will afford ample information, derived, as it is, from his large personal experience, and his abundant reading."

Lithotomy.—Referring the reader desirous of learning the various methods practiced by different surgeons in different ages and countries, to the elaborate work of Deschamps, Prof. G. remarks, that he proposes to give merely an account of a few of the more important operations, as they are performed by the most eminent surgeons of the present day, viz., the lateral, bilateral, quadrilateral, supra-pubic, and recto-vesical. Prof. G. considers it important to subject every patient about to undergo lithotomy to a *certain* amount of preliminary treatment. Too much preparation, however, should be avoided; for it is as bad as too little—indeed, if any thing, worse. To starve and purge a patient to death before an operation, is as bad as to kill him after it. Mr. F. H. Brett, in his *Practical Essay on some of the Principal Surgical Diseases of India*, observes, that his last sixty-eight cases, *all* did well, and he is inclined to attribute his extraordinary success, either to the climate, or to the fact that he operated without any preparatory treatment. The unfavorable influence which follows the feverish anxiety and irritation so often arising during the preparatory treatment, has been most forcibly described by Mr. Edwin Lee, in his Prize Essay. "No surgeon," says Prof. G., "having a proper regard for his own character and the dignity of the profession, would be likely to operate in case the patient is affected with organic disease of the lungs, or of any other important viscera," &c., &c.

In Dupuytren's "*Manière Nouvelle de prat. l'opération de la Pierre*," par Sanson and Begin, is related a case, where the patient exhibited every indication of tubercular disease of the lungs, as dullness under the clavicle, an almost constant hacking cough, all of which disappeared, shortly after the removal of the stone; and Belmas (*Traité de la cystotomie. Lus. Pub.* p. 299) remarks, that the practice of Dr. Souberbielle presents us with abundant proof that the operation "*peut arrêter les progrès de ces affections et guerri les malades.*" We have had occasion, (*N. Y. Jour.* for July, 1851,) to advert to the propriety of amputating, in certain cases of this kind, and the facts which we then brought forward, as well as those to which we have just allu-

ded, conclusively prove, in our opinion, that tubercular disease of the lungs, unless far advanced, is not always to be regarded as a contraindication, either to lithotomy or amputation.

Lateral Operation.—An excellent account of this, his favorite method, is given by Prof. G., and he joins with those who advocate an incision of the prostate, "limited as it can be consistently with the safe and easy extraction of the foreign body." In his own operations (24, all successful) he has strictly adhered to this rule, and says he has had no occasion to regret it. We find in favor of a limited division of side of the prostate, the names of Lecat, Chaussier, Flawbert, Delpech, Scarpa, Dupuytren, Brodie, Stanley, Martineau, Key, Liston, Fergusson. For complete division, Cheselden, Garengéot, Morand, Moreau, Le Dran, Desault, John Bell, Langenbeck, Klein, Samuel Cooper, Sir Astley Cooper, Malgaigne, &c.

Accidents during and after the operation.—*Hemorrhage.* The subject of primitive hemorrhage, or that which occurs during the operation, is fully discussed by Prof. G., but on that of secondary hemorrhage he is very brief, nor do we think the facts which we shall presently produce, warrant the following remarks: "The older lithotomists speak of secondary hemorrhage taking place several days, and even weeks, after the operation. When it is recollected what violence they employed in extracting the stone, we need not be surprised at the occurrence, which is fortunately extremely rare, in the present improved mode of proceeding." Now when we find this accident occurring in the hands of such men as Mr. Earl, Sir Benjamin Brodie, Messrs. Travers, Greene, South, Fergusson, &c., we have every reason to believe that it could not have been from any undue violence employed, nor can we credit for a moment that such operators would not give their patients all the benefits of "the present improved mode of proceeding." Those who wish to examine this matter more fully may, find it treated in the following works:

Bertrandi, *Traité des Operations*, p. 127; Tolet, *Traité de la Lithotomie*, p. 109; Collot, *Traité de l'opération de la Taille*, pp. 131, 132, 140. Le Dran, *Traité des Operations*, p. 322; Sir Benj. Brodie, *Lecture on Diseases of Urinary Organs*, p. 172; South's Chelius, vol. 3d, p. 335; Mr. Henry Smith, *Lond. Med. Times*, May, 1851, p. 532. Mr. Earle's case is described by Sir Benjamin Brodie; those of Mr. Travers and Greene, by Mr. South, and that of Mr. Fergusson by Mr. Henry Smith. We

may also add, that this matter has been most ably handled by Deschamps, in his *Traité de la Taille*, vol. 3, p. 358.

Phlebitis.—"A peculiar form of inflammation, named phlebitis, occasionally occurs after this operation. It is most frequently met with in elderly subjects, affected with an unusual development of the veins of the neck of the bladder, and the prostate gland. The disease usually arises within the first four or five days, and soon spreads through the neighboring cellular tissue, assuming a diffused erysipelatous character, and terminating, if the patient survive sufficiently long, in purulent infiltration. The French surgeons consider phlebitis as a very common cause of death after this operation; a view which has not, I believe, been confirmed by English and American observers."

In the *Lond. Lancet*, for January, (Am. ed.) 1851, p. 71, Mr. Wm. Pirrie, Régius Prof. of Surgery at Marischal College, Aberdeen, has reported a case where he performed lithotomy on a man, aged 63, "fat, cheerful and healthy looking," from whom he extracted two calculi "with great facility." The patient did well until the 13th day, when the *calf of the leg* was attacked with phlebitis. In the last volume of the same journal, for 1850, Mr. Bransby Cooper has detailed another case, in which infiltration of urine occurred in the perineum four days after the operation, and which gave rise to sloughing of the scrotum. Sixteen days after the operation, phlebitis invaded both extremities, and proved speedily fatal. In this, as in Mr. Pirrie's case, the part first attacked was the calf of the leg. Mr. P. observes, that he had never before seen phlebitis in such a situation after lithotomy, especially when, as in his case, the wound and surrounding parts remained healthy. In the *Bull. Gen. de Therapeutique*, for April, 1840, Civiale has an article on certain abscesses occurring in different parts of the body, during the progress of diseases of the urinary organs. He remarks, that these cases have escaped the attention of authors; but since his has been directed to them, he has met with numerous examples. All of his cases occurred in adults—four had strictures—during the treatment of which (one by cauterization, three by dilatation) the abscesses were developed. In the fifth case, there was serious disease about the neck of the bladder, and in several others there were urinary calculi, which had been broken down by lithotrity. In all, he observes, there seemed to be some considerable irritation or inflammation of the urethra or neck of the bladder, which apparently gave rise to the

distant affection. These abscesses, he states, are peculiarly liable to form in the extremities and large joints, and the condition of the system accompanying them is attended with much danger. He lost the first two patients which he treated. (See, also, *Traité Prat. sur les Mal. des Org. Gen. Urinaires*, p. 531.) M. Sedillot, in his *Treatise on Pyæmia, or Purulent Infection*, and Mr. Henry Lee, in his *Prize Essay on the Origin of Inflammation of the Veins*, and on the *Causes, Consequences and Treatment of Purulent Deposits*, agree, that the most common seat of the muscular abscess is the region of the calf of the leg, where, sometimes, though producing great pain, it may exhibit but little redness or swelling. Whether these abscesses, found in parts remote from the seat of operation, are the result of *purulent deposit* from the circulation, or the product of local inflammation, we believe is not yet fully settled. In favor of the former opinion, we have the names of Budd, Rayner, Hasse, Lebert, Magendie, Cruveilhier and Mr. Lee, whilst the views of M. Sedillot and Dr. Aran are opposed to this doctrine. Prof. G. advises an anti-phlogistic treatment in these cases, "conducted cautiously," however, "and with due regard to the constitution."

Mr. Lee objects to depletive treatment, and recommends quinine bark and opium, as was found of service in Dr. Pirrie's patient.

We pass over many of Professor G.'s observations on the accidents during and after the operation, simply observing, that under the heads of Sinking, Retention of Urine, Undue Inflammation of the Wound, Lesion of the Prostate Gland, Urinary Infiltration, Peritonitis, &c., &c., the reader will find much of interest and practical value.

Statistics.—This is a subject which, with the facts in our possession, we approach with much satisfaction. "It has been calculated," says Professor G., "that about one out of every five that are cut for stone by the lateral method, perishes; and this estimate, taking the general average result, is, perhaps, pretty near the truth. Considered, however, with reference to individual operators, it is incorrect. Thus, taking the results furnished by some of our own lithotomists, it will be found that they afford a much more gratifying picture. Dr. Dudley, for instance, is said to have lost only 5 cases out of 180 cut, up to the beginning of 1846;* Dr. Mettauer, of Virginia, 2 out of 73; Dr. John

* We believe he now numbers over 200 cases.

C. Warren, of Boston, 2 out of 30, of which three, however, were by the bilateral method; and Dr. Gibson, of Philadelphia, 6 out of upwards of 50. My own cases, amounting to 24, have all been successful. I invariably use the knife, while Dudley and Gibson employ the gorget. In the Pennsylvania Hospital, at Philadelphia, between 1752 and 1848, 83 cases of stone were cut by the lateral method, and, except in a few instances of very young children, by means of the gorget. Of this number, 72 were cured and 10 died—1 being set down as relieved."

The *British and Foreign Medical Review* for July, 1845, p. 57, in noticing Pancoast's Operative Surgery, observes: "We have seen some very queer-looking American lithotomy instruments, which have not greatly exalted our views of American lithotomy or American cutlery." (These remarks are excited by Pancoast's praise of Physick's modification of the gorget.) "Our Greens, our Listons and our Keys, our Weisses, our Loundys and our Simpsons, may look aghast when they read this." "Success," says the same writer, "is the grand criterion in surgery, but success can only be justly appreciated by statistical results." Again, in alluding to Dr. Prout's calculations, drawn from the returns of the Bristol, Leeds and Norwich Infirmaries, which gives a mortality of 1 in 5 19-50 cases, the reviewer continues: "This ratio is drawn from about 1,000 cases; and the further researches of Dr. Willis show that the truth is probably thus nearly approximated." Now, though the *amiable* writer just quoted may have seen some specimens of *American cutlery*, which have not greatly exalted his views of *American lithotomy*, we venture to predict that the following statistics, drawn from the practice of American surgeons, will cause him to look aghast as he reads them:

	Operations.	Deaths.		Operations.	Deaths.
Dr. Dudley, . . .	180	5	Dr. J. R. Buton, . . .	36	4
" Mettauer, . . .	73	2	" N. R. Smith, . . .	45	3
" J. C. Warren, . . .	30	2	" Mott, . . .	50	1
" Gibson, . . .	50	6	Ohio Surgeons,* . . .	72	6
" Gross, . . .	24	0	Penn. Hospital, . . .	63	10
" Goldsmith, . . .	58	3			
" Geo. McClellan, . . .	30 (9 high)	0	Total, . . .	721	42

The ratio of mortality after lithotomy in France, we believe, is not far from 1 in 6. In England, as the reviewer admits, 1 in 5

* *Trans. of Ohio State Med. Society. Report of Committee on Statistics of Calc. Diseases in Ohio, 1850.*

19-50. In the United States we find, from the above statistics of well-known surgeons here, 1 in 17 1-6! Having dwelt at such length on the lateral operations, our limits compel us to pass over Professor Gross's observations on the bilateral, quadrilateral, supra-pubic and recto-vesical methods. The chapter on *foreign bodies in the bladder*, also, need not detain us, and we proceed at once to the *Diseases and Injuries of the Prostate Gland*, which he arranges under the following heads: 1. Wounds; 2. Inflammation; 3. Suppuration and Abscess; 4. Ulceration; 5. Hypertrophy; 6. Atrophy; 7. Scirrhus; 8. Encephaloid; 9. Colloid and Melanosis; 10. Tubercle; 11. Cystic disease; 12. Hemorrhage; 13. Calculi; 14. Phlebolites.

Hypertrophy of the Prostate.—"This," says Professor G., "is emphatically a disease of old age; while all the other organs of the body, almost without exception, experience a diminution of weight and bulk as man approaches the period of decrepitude, the gland in question alone manifests a tendency to transcend the limits assigned to it by nature. No observations that have yet been made afford a clue to this singular circumstance. The belief, I know, is very general even in the profession, that there is hardly a man of fifty who has not an enlarged prostate. My experience has supplied me with no facts in support of this opinion; the conclusion is too sweeping; the word 'old' is a relative one, and should be used in no other sense in reference to the present subject." A question arises here which is not one merely of idle curiosity, for if the enlargement in old people is not an *accidental disease*, but one of a series of *natural changes* which the system undergoes after the middle period of life, we must expect but little from treatment. This is the view taken by Sir Astley Cooper, Sir Benjamin Brodie, Mr. Lawrence and Civiale. Graefe and Portal maintained that the prostate gland, instead of increasing in size with years, became actually diminished. Mr. Guthrie, in his lectures on some of the more important points in surgery, delivered before the Medical Society of London, (*Lond. Lancet*, Am. Ed., July, 1851, p. 9.) observes, that "a great mistake had been previously committed, and, indeed, now continued, that an enlarged prostate is a very common disease of old men, and particularly 'of the part called its third lobe. In my lectures, delivered in 1830, I declared this error to be one of those which still existed in modern surgery. The point, I am happy to say, has of late been investigated by the surgeons of the Royal Naval

Hospital, Greenwich. Sir John Liddell, Dr. Beith, and, indeed, all of them assure me that, on the examination of the bodies of the old men who die there—and from two to three hundred, or more, die annually of old age—the enlargement of the prostate, and especially of its third lobe, is not commonly found in them; thus proving that the changes which do take place in these parts often admit of more relief from art than they were formerly capable of receiving.” Professor G. though differing with Mr. Guthrie from the authorities above quoted, yet takes a more discouraging view of the treatment of senile hypertrophy, and, from his remarks, we should infer that he regards it as little under the control of medicine as the osseous depositions in the arteries of old men.

Mr. John Adams, (*Op. Cit.* p. 61,) describes an affection which consists essentially in an irritation of the prostatic part of the urethra, accompanied by a similar condition of the ducts and follicles of the gland. Among other symptoms there is a slight discharge of mucus from the urethra, so as just to moisten and discolor the linen. He calls this disease the irritable prostate gland. He also describes neuralgia of the prostate, cases of which are also related by Civiale, yet Prof. G. seems not to have recognised either of the above as distinct forms of disease. In the 83 pages, however, which he has devoted to the consideration of the affections of the prostate gland, we believe, with the exceptions just mentioned, he has included every thing of practical importance which can be said on the subject. Several original drawings are also given, which are of value in illustrating the various forms of prostatic disorder.

Diseases and Injuries of the Urethra.—Malformations and imperfections of the Urethra.—Prof. G. observes, that it does not fall within the scope or design of his treatise to present a full and detailed account of this subject, and he aims to furnish only an outline of the more important facts in their relation to the surgical pathology of this tube. He arranges these affections as follows: 1. Malformations of the terminal orifice; 2. Absence, contraction or obliteration of the urethra; 3. Duplicity of the canal; 4. Changes of form; 5. Deviations from the normal direction.

Hypospadias.—Three varieties of this he recognises, and he likewise notices the operation performed many years ago by Dr. Physick, also by Dr. Pancoast, in 1844, to remedy that form complicated with great shortening of the spongy substance of the urethra, accompanied with incurvation of the penis. This ope-

ration consisted in cutting out a V shaped piece of the cavernous bodies at their dorsal surface. In a case under his own care, he dissected off the integuments at the seat of the bend, and then made four horizontal incisions, at intervals of several lines, into the fibrous sheath of the cavernous bodies, in order to restore them to their normal length. This proceeding had the effect intended, but, in consequence of the difficulty of keeping the organ extended, there was a reproduction of the curve, within a very short period after the cicatrization of the parts.

A curious case came under our care a few years since, (see wood cut in *Amer. Journ. of Med. Sciences*, April, 1847,) in which we were obliged to dissect the penis out of the soft parts in which it was completely imbedded. The raw surface under the penis, thus exposed, was covered by flaps drawn from both sides and united in the median line. A leaden tube was then placed in the urethra, and the latter was retained in the finger of a small glove until the wounds had healed. The child died some six months afterwards from pneumonia, whereby we were prevented from performing any operation to overcome the hypospadias. The external appearance of the pubic region in this child resembled more that of the female than the male sex; and doubtless if the patient had lived to reach adult years, he would have passed for an hermaphrodite. Professor G. makes no allusion to this subject of hermaphroditism—a very valuable paper on which was published by Professor Theile, in Muller's Archives fur Anatomie, 1847, an abstract of which may be found in the *Brit. For. Med. Chir. Rev.* for January, 1848, p. 270. The examinations of Prof. Theile and Sæmmering, related by Prof. T., shed much light on some of the supposed cases of this kind, and corroborate the opinions of modern anatomists, that every variety of so-called hermaphroditism is referable to an abnormal condition either of the male or of the female organs of generation, existing singly, or but rarely conjointly, in the same individual. An instance of the latter has come under our observation—the particulars of which we hope at a future period to present to the profession.

Strictures of the Urethra.—Diagnosis.—Physical Exploration.—Prof. G. is disposed to attach but little importance to the impressions obtained by bougies tipped with wax, which Ducamp and Civiale think may be turned to great account in the treatment. The instrument which he usually employs for this purpose, is the common silver catheter, of moderate size, and a little conical at

the extremity. A tolerably correct idea of the nature, seat and extent of a stricture, he says, may sometimes be acquired by the application of the thumb and finger along the under surface of the penis. As the part corresponding to the obstruction is not only indurated, but contracted, he remarks, in such a case, it is almost as easy to determine the character of the affection by an external examination as by the use of the catheter or bougie. These remarks are chiefly applicable, of course, to strictures of the spongy portion of the canal; for, when the disease is situated far back, a more accurate and thorough exploration alone will suffice.

Causes of Stricture.—Prof. G. maintains, in opposition to Hunter, Abernethy, Sir E. Home, Desault, &c., that of the inflammatory causes, the most frequent is gonorrhœa, an opinion in which he coincides with Civiale.

“It has been supposed,” says Prof. G., “that stimulating injections, employed too early in this disease, are capable of producing the affection; this is undoubtedly true, but I am satisfied that the occurrence is much less frequent than is generally imagined. The point is one of practical, and not of mere theoretical importance, inasmuch as it establishes the fact, that the disease is much more at fault than the remedies employed for its cure. In a word, it shows how mischievous a gonorrhœa may be, and how diligent the physician should be in his endeavors to remove it.”

Mr. Rynd, in his *Practical Observations on Stricture*, denies the influence of gonorrhœa, but we think the majority of facts go to show that the long continued excitement in bad cases may give rise to a thickening and modification of the vital elasticity of the walls of the canal.

Treatment.—This consists of dilatation, compression, cauterization, incision and external division.

Dilatation.—“My conviction,” says Prof. G., “founded upon ample experience, is, that the very best instrument for dilating a stricture is the common silver catheter, with a slightly conical point. I have employed this instrument now in the treatment of this affection for upwards of twenty years, and nothing could induce me to abandon it. It possesses all the requisites that such an instrument ought to have, viz., lightness, firmness and durability, and is incomparably superior, in every respect, to all the metallic, wax, gum-elastic, ivory and other bougies, that have ever been invented. In making this statement, I do not wish to be understood as saying that bougies are entirely worthless, or that they

ought never to be used. If I was to do this, I should certainly do injustice to my judgment, and assert what is contrary to the experience of some of the ablest and most enlightened surgeons of the age, both in this country and in Europe. My desire is merely to recommend, in strong and decided terms, an instrument which is capable, as a general rule, of fulfilling every indication presented in this disease, even in its worst forms, and which, I am satisfied, is much less appreciated than it deserves to be."

At the Hôpital Neckar, the instrument so much lauded by Prof. G. is seldom used, and to those desirous of perusing an equally laudatory strain on *bougies*, we would recommend the first volume of Civiale's *Traité Pratique sur les Maladies des Organes Genito-Uriinaires*, p. 203, et suiv.

External Division, or Perineal Section. When Civiale's *Traité Pratique et Historique de la Lithotritie* appeared in 1847, the British medical press was shocked at the painful view which it afforded of the quarrels, jealousies and slandering of their Parisian brethren, and not a little did it exult in the assurance it felt of the very exalted tone of professional feeling existing in their own, when compared with that of the French capital. We doubt, however, whether any thing can be found among all the proceedings on that great arena for professional conflict, the Academy of Medicine, to surpass, if, indeed, to equal the bitter animosity, the unamiability of temper, the personal abuse, and low vituperations which for some months past have characterized the conduct of the opponents and advocates in Great Britain of the perineal section in the treatment of stricture. Indeed, as we had occasion to remark in the last number of this Journal, p. 375, Prof. Syme has actually challenged his London brethren to produce a case of stricture, which in his hand shall prove to be impermeable, and has offered to defray the expenses of all such patients to Edinburgh.*

"This plan of treating stricture," (external division,) observes Prof. G., "originally practised in the last century, has recently met with a strenuous advocate in Mr. Syme, Prof. of Clin. Surgery

* In consequence of the unpleasant results following the treatment of popliteal aneurism by pressure, in the unskilful hands of the London surgeons, the rage of those in Dublin is kindled, and they challenge the former to send their cases to Dublin, from which city they shall be returned cured. To quote the language of the *Lond. Med. Times*, "what with speculum challenges, and surgical challenges, we have of late got very pugnacious."

in the University of Edinburgh. In a short monograph on this disease, published in 1849, he has taken great pains to point out the advantage of this method, and has detailed a number of interesting cases, in which it was followed by prompt and permanent cures. Successful results, by the same procedure, had been previously obtained by J. L. Petit, Lavanier, Eckstrom, Arnott, Jameson and other surgeons. Nearly ten years ago I performed, with the kind assistance of Prof. Cobb, an operation of this kind upon a young man from the state of Illinois."

Although Prof. G. devotes but little more than two pages to this method of treating stricture, his remarks are full of interest, and well calculated to prevent the surgeon from rashly attempting an operation which he observes, of all in surgery is least to be coveted. The case in which he himself operated was one of impermeable stricture, the result of a wound in the perineum. Prof. Syme, as is well known, performs the operation *in those cases where an instrument can be pushed completely into the bladder*. We shall not soon forget the decided manner in which M. Civiale recently responded to a question which we proposed to him. "Do you ever, sir, perform Syme's operation in *permeable* stricture?" "*Jamais; jamais!*" In cases of *impermeable* stricture, however, he informed us he had often performed the perineal section, as was recommended and practiced by Bertrandi and Collot. It was long since observed by M. de la Motte, that "*la diversité des opinions ne doit jamais aliéner les cœurs;*" and it is a still older saying, that "*ingenuas didicisse fideleter artes emollit mores nec senit esse ferus.*"

No one can read the work of Mr. Lizars, at the head of our title, without regretting that professional envy and zeal should have excited him to employ the scurrilous language which he applies to Prof. Syme. True, the course of the latter gentleman, for some time past, has not been calculated to earn many friends. It has been quite apparent that he is too much like those Eastern kings,

"Who, to secure their reign,
Would have their brothers, sons and daughters slain"

In his anxiety to *reign* sole dictator in all matters pertaining to surgery, he has disgusted every co-laborer in this noble field. With vanity and self-conceit, which know no bounds, his constant assumption of *priority* and *superiority* has mortified his friends, and armed his enemies with weapons of the keenest edge against himself.

But we have extended our remarks much further than we anticipated when we commenced, and our time and space warn us that we must bring them to a close. We have freely commented on many of the views of Professor G., and have had occasion to point out what we supposed to be deficiencies and imperfections in his work. Still, whoever will peruse the vast amount of valuable practical information it contains, and which we have been unable even to notice, will, we think, agree with us, that there is no work in the English language which can make any just pretensions to be its equal. Secure in the esteem and confidence of the profession in this country, at least, its distinguished author will doubtless receive their warmest congratulations that he has succeeded in producing a treatise so creditable to himself, and, as we humbly believe, to *American surgical literature*.

CRITICAL BIBLIOGRAPHICAL NOTICES.

ART. IX.—*Illustrations of Syphilitic Disease*. By PHILIP RICORD, D. M. P., etc. etc. Translated by THOMAS F. BETTON, M. D., etc. With the addition of a History of Syphilis, and a complete Bibliography and Formulary of Remedies. Collected and arranged by PAUL B. GODDARD, M. D., etc., etc. With fifty large quarto Plates, comprising 117 beautifully colored Illustrations. Philadelphia: A. Hart, (late Carey & Hart.) 1851. 4to. pp. 383.

The republication of M. Ricord's *Clinique Iconographique de l'Hôpital des Vénériens*, celebrated for its accuracy, under the title above given, cannot but be appreciated by the profession at large. There is a utility in illustrated works, executed with the accuracy which this is, that reaches far beyond mere verbal or written descriptions, and places the practitioner possessing them in a position nearly allied to that of the advanced clinical teacher.

The first seventy-three pages are occupied with the history and bibliography of syphilitic disease, by the translator; and the various formulæ used by M. Ricord, collected and arranged by the editor. The first is an elaborate history of venereal disease from the earliest period of time in which we have any record of it, to the present; while the second is a very complete list of the various publications which have appeared from 1495 to near the present time. In each of these papers there is displayed a learn-

ing and research alike commendable to Dr. Betton, and instructive to the reader, and we can justly say that these portions of the work have a value and merit which is not to be found in any other American publication within our knowledge. The formulary, collected and arranged by Dr. Goddard, adds much to the practical value of the work, as it contains the formulæ for all the preparations used by M. Ricord in the treatment of the many forms and complications of the disease in question.

In looking over the text and plates of this truly valuable volume, we observe that some changes have been made in the arrangement of the author, and that all that appears in the original edition does not appear in the American. This fault of omission (if it may be styled a fault) detracts but little from the practical value of the work, as a sufficient number of plates appear to supply the reader with good illustrations of the various forms and complications of this protean disease; for as we turn over the several pages and plates, we find the whole history, theoretical and practical, of the subject, treated in a masterly style; primary ulcers of every variety and kind; the various complications, with the accompanying constitutional affections; and last, though not least, the syphilides, each and all come in for their share of illustration and description, and that, too, in a manner which cannot fail to impress on the mind of the reader a thorough understanding of the subject.

It was our intention, but our want of space has prevented us from carrying it out in the present number, to give our readers a fuller and more extended and satisfactory notice of the contents of this volume. It is deserving of a place on the table of every practising physician; and those who have been instrumental in placing the costly work of M. Ricord within the reach of American physicians, at so moderate a price, are deserving of our warmest commendations. We are encouraged to believe that it will receive at the hands of the profession a liberal patronage.

ART. X.—*Surgical Anatomy*. By JOSEPH MACLICE, Surgeon. With colored plates. Part 5th and last. Philadelphia: Blanchard & Lea. 1851.

We have here the completion of the work of Mr. Maclice, on *Surgical Anatomy*, a work which has no parallel in point of accuracy and cheapness in the English language. In the previous

numbers of this journal we have (as the successive numbers of this volume appeared) called attention to it with no ordinary feelings of satisfaction; and now that it is completed, we will only repeat what has been said in a previous number, that "to the physician as well as the surgeon, away from schools and the opportunity for dissections, this work cannot fail to prove of eminent usefulness."

ART. XI.—*Illustrated Manual of Operative Surgery and Surgical Anatomy*. By MM. CL. BERNARD, D. M. P., and C. H. HUETTE. Edited, with notes and additions, and adapted to the use of the American Medical Student, by W. H. VAN BUREN, M. D., Surgeon to Bellevue Hospital, etc., etc., and C. E. ISAACS, M. D., Demonstrator of Anatomy, College Physicians and Surgeons, New-York. Illustrated with steel Engravings, from drawings after nature, by M. J. Lévêille. Designed to serve as a companion to the ordinary text-books on Surgery. New-York and London: H. Bailliere. 1851. Part 1. 8vo. pp. 84, with 26 engravings.

The *Illustrated Manual* of M. M. Bernard and Huette is decidedly the neatest volume, if the future parts are in keeping with the present, that has come to our knowledge. We have been accustomed to see issue from the French and English press, works of superior artistical finish; but truly can we say, that never have we seen one which so completely fills our eye in point of beauty of design and execution as this. In our admiration, however, we would not lose sight of the fact, that this work is designed as a complete and concise picture of the science and art of operative surgery, in its present advanced and perfected condition, in a portable form. It is intended as a text-book for students, to aid them by illustrations in acquiring accurate and clear ideas of the nature and design of the various operations in surgery, and as such will serve as a companion to any of the ordinary text-books on the practice and operations of surgery; but cannot take the place of the extensive and erudite works of Bougery and Jacob, Velpeau, Chelius or Prof. Pancoast. Intended, however, as it is, as an illustrated text-book for the student, we feel quite certain that it will prove a valuable guide for reference to the advanced practitioner, reminding him at a glance of the difficult points in relative anatomy, which are liable to be forgotten by one not accustomed to

oft-repeated dissections. The editors, in translating and Americanizing this manual, have rendered the profession signal service; and the publisher, we sincerely hope, will receive that substantial encouragement which so meritorious a publication should command.

ART. XII.—*Operative Surgery, based on Normal and Pathological Anatomy.* By J. F. MALGAIGNE, Prof. Agrégé de la Faculté de Médecine de Paris, etc., etc. *Translated from the French*, by FREDERICK BRITTAN, A. B., M. D., M. R. C. S. L. Illustrated by wood Engravings, from designs by DR. WESTMACOTT. Philadelphia: Blanchard & Lea. 1851. 8vo. pp. 565.

The above treatise of M. Malgaigne is an English translation of one of his most celebrated works; a work which has passed through five editions in the original, and has been translated into at least six continental languages. The two principal parts of *Médecine Opératoire*, which have been treated of with especial care, are surgical anatomy and operative manipulations, with the appreciations of the different methods applicable to the treatment of the disease in question. The work, we believe, was originally intended for students only; but to those who have kept pace with the onward progress of surgical literature within the last few years, it will be evident that it has fallen into the hands of the masters of the surgical art, and large drafts have been made upon it in the current literature of the day. If any evidence, other than that which the reputation of the author furnishes, were wanting to introduce the work to the American reader, the facts above stated are sufficient. We regard this work as one of the best manuals that can be placed in the hands of surgical students, desirous of becoming acquainted with all that relates to operative surgery.

ART. XIII.—*Lectures on Materia Medica and Therapeutics, delivered in the College of Physicians and Surgeons of the University of the State of New-York.* By JOHN B. BECK, M. D., late Professor of Materia Medica and Medical Jurisprudence. Prepared for the press by his friend, C. R. GILMAN, M. D., Professor of Obstetrics, etc., in the College of Physicians and Surgeons. New-York: S. S. & W. Wood, 1851. 8vo. pp. 581.

These lectures we consider as a very timely and acceptable offering to the medical student, especially to the alumni of the college in which the author was a professor. We have seldom

listened to so practical and instructive a lecturer as the late Dr. John B. Beck, and therefore we have examined this volume with no ordinary feelings of pleasure. It bears the impress of the workings of that mind which labored long and faithfully to impress on the younger minds of the profession, those sound and practical precepts which characterized his lectures, and which it was his highest pride and ambition to impart. The lectures are published as delivered, with the exception of an occasional addition, which the progress of science required at the hand of the editor. We observe several additions made by the editor; these are judicious and timely, as an examination of those on Cod Liver Oil and Anæsthetics will abundantly prove. As a textbook for the student of medicine, and a work on the indications of treatment of diseases, this volume may be considered as among the first in our literature.

ART. XIV.—*Southern Medical Reports, consisting of General and Special Reports on the Medical Topography, Meteorology and prevalent diseases of the following States: Louisiana, Alabama, Mississippi, North Carolina, South Carolina, Georgia, Florida, Arkansas, Tennessee, Texas and California.* To be published annually. Edited by E. D. FENNER, M. D., of New-Orleans, Member of the American Medical Association, etc., etc. Vol. 2, 1850. New-Orleans: D. Davis, Son & Co. New-York: S. S. & W. Wood. 1851. 8vo. pp. 498.

In the number of this Journal for July, 1850, we had the pleasure of calling the attention of our readers to the first volume of this annual publication; on that occasion, we made a remark which we are called upon to repeat on this, viz., that "in the preparation of this interesting volume, its able editor has evinced great perseverance and zeal in the arduous and praiseworthy undertaking in which he is engaged, and we shall be disappointed if it does not receive the approbation of the profession, and especially of the southern portion of it, for whose literary and practical advancement it was conceived and brought forth." There is no lack of energy and discrimination in the preparation of this, and so sure as the first commanded the approbation of the medical press generally, so sure will this receive a greater meed of praise.

The principal topics treated of in this volume are the endemic

fevers, epidemic cholera and colic, medical topography and meteorology of the states, whose names are mentioned in the title. If good and faithful records of the origin, progress, nature, symptoms and treatment of endemic and epidemic diseases of a large portion our country can lay claim to practical value, we regard this work as one of the most valuable publications which has been made to our literature for a long time, while an increase in the amount of matter, with a reduction in the price of the present volume, will, we trust, command for it a sale commensurate with its true merits.

In the preface to this volume, we find the indulgence of the critic craved for the writings of the unpracticed contained in it; we find but little occasion for this, for we would that there were more such unpracticed writers to add to and support our native literature.

ART. XV.—*Elements of General and Pathological Anatomy, presenting a view of the present state of knowledge in these branches of Science.* By DAVID CRAIGIE, M. D., F. R. S. E., Fellow of the Royal College of Physicians, Edinburgh, etc., etc. Second edition, enlarged, revised and improved. Philadelphia: Lindsay & Blakiston. 1851. 8vo. pp. 1,072.

This is an elaborate work—a work which we have been accustomed to consult, frequently, since the first appearance of the *present* edition; for it will be seen, on a careful inspection, that it is the last original edition, with an American title page. This circumstance does not in the least impair its value; on the contrary, to those who estimate the value of the editions of their works by neatness of typography and clearness of paper, it will be received with the more pleasure. The arrangement of the work is that of defining definitely the normal anatomy of tissues, and then basing thereon the progress and effects of pathological processes; or, to use the words of the author, “I have chosen as the basis of arrangement, the distinctions of the component tissues of the animal body, as derived from the similitude and differences of their anatomical characters.” The arrangement and manner of treating the subjects has commended itself to our favor, and we hesitate not to pronounce it one of the best compends of the elements of general and pathological anatomy within the reach of the American student or practitioner of medicine.

ART. XVI.—*Manual of Diseases of the Skin*. From the French of M.M. CAZENAVE and SCHEDEL, with Notes and Additions by THOS. H. BURGESS, M. D., Surgeon to the Blenheim-street Dispensary for Diseases of the Skin, etc., etc. Second American edition, enlarged and corrected from the last French edition, with Additional Notes, by H. D. BULKLEY, M. D., Physician of the New-York Hospital, etc., etc. New-York : S. S. & W. Wood. 1852. 8vo. pp. 348.

The reputation of this work is such, for clearness of description and practical utility, that there is needed, at our hands, no praise to bring this edition before the profession. We perceive that it has been prepared with especial care, and that the last French edition, published since the translation of Dr. Burgess's, has been used in the preparation of it. This fact alone will give it a superiority over all the others. Two articles, which were entirely re-written for the last original edition, have been translated for this ; thus showing that the American editor has been actuated by a commendable spirit in the supervision of it. We most heartily recommend it to the continued confidence of the profession.

ART. XVII.—*Elements of Physiology, including Physiological Anatomy*. By WM. B. CARPENTER, M. D., F. R. S., F. G. S., Examiner in Physiology and Comparative Anatomy in the University of London ; Author of the Principles of Human Physiology, etc., etc. Second American, from a new and revised London edition, with one hundred and ninety Illustrations. Philadelphia : Blanchard & Lea. 1851. 8vo. pp. 566.

As an elementary text-book, to which this volume only lays claim, we regard this work as one of the best that can be placed in the hands of the student of medicine at the commencement of his studies in physiology. From an advertisement, by the American publishers, we learn that it is republished here simultaneously with the last English edition revised by the author. Our *confrere*, Dr. F. G. Smith, of Philadelphia, having supervised the American proof sheets, we regard this fact as an additional testimony in its favor.

PART THIRD.

EDITORIAL AND

AMERICAN MEDICAL RETROSPECT.

COMMUNICATION.

A Novel Remedy for Small Pox. [The following communication was received through Dr. Rand, Resident Physician of the Seamen's Retreat, S. I., to whom it was sent by Dr. Cornwall. The data upon which Dr. Nogueira's conclusions are based, are, to say the least, limited. We are not inclined, however, on this account, to withhold it from our readers.—*Ed. N. Y. Jour. Med.*]

The following account of the employment of the vaccine virus as an internal remedy, was communicated to me by Dr. José Alves Nogueira, of Porto-Algre, Brazil, and is an abridged translation of his own original manuscript. Dr. N. is an eminent practitioner in this city, and has distinguished himself by important surgical operations, as well as by successful efforts to advance medical science in this country, particularly in his accurate investigations of the specific effects of various powerful remedies in some of the most dangerous diseases, as belladonna in scarlet fever, and ergot in spermatorrhœa. His interesting papers on these subjects have already been published in the *Gazeta dos Hospitales*, of Rio de Janeiro, and if circumstances allow, we may hereafter make some extracts therefrom. We will only add, in conclusion, that we hope the opinions advanced in the following narrative may be more fully tested and confirmed by the profession at large.

NATH'L O. CORNWALL, M. D.

Porto-Algre, Brazil, July 22d, 1851.

On the Vaccine Fluid as an Internal Remedy in Small Pox. By DR. JOSÉ ALVES NOGUEIRA, of Porto-Algre, Brazil.

The great number of patients which I have lost from small pox,

during fifteen years of practice, both while in charge of military hospitals, in which this disease is very prevalent, and in private practice in the city, has led to the use of a variety of remedies, none of which has produced such satisfactory effects as the vaccine pus diluted in water and taken internally. My first case was a negro, attacked with confluent small pox, which, in spite of all the ordinary antiphlogistic remedies, increased in violence until it threatened the life of the patient. At this time it occurred to me to make trial of the vaccine pus, which being a preventive, it might possibly possess the power of curing the disease; on the same principle that belladonna, so efficacious in the treatment of scarlet fever, is also a preservative against it. Experience alone will decide, and as my patient was rapidly growing worse, I resolved to put it to the test. Procuring a lamina of vaccine pus, of the purest quality, I dissolved it in an ounce of water, and gave him a tablespoonful in the morning. In the afternoon the fever had diminished, and I gave him another dose. He passed the night comfortably, and slept for the first time in three or four days; he awoke with some appetite, his face was much less swollen, and he could open his eyes. I gave him the remainder of the remedy, and he convalesced without farther treatment, except a dose of castor oil.

Case 2d. Child three years of age, whose body was completely covered with variolous pustules, nearly united to each other, especially on the face and extremities. It had an intense fever, disturbed sleep, vomiting, difficult deglutition, diarrhoea and delirium. Under the use of the ordinary remedies, the pustules had arrived at their greatest perfection, and at this moment I resolved to administer the vaccine pus. Soon after the first dose the little patient had a quiet sleep, the delirium ceased, the swelling diminished and it rapidly recovered.

Case 3d. Was a child, thirteen years of age, robust, and of sanguine temperament; two cases of this disease, in the same family, had recently proved fatal. When first called, I found the symptoms of small pox well developed, the pustules being so united that it was difficult to separate them; the mother and others of the family, terrified at the fatality of the disease, had abandoned their home, and, although they had never been vaccinated, could not be induced to submit to this operation.* My little patient was

* It appears incredible that, notwithstanding the government of Brazil spends a

left in charge of two ladies, who, with commendable charity, offered to nurse her. The disease ran an unusually violent course, the face appearing at one time to be a single pustule. With the exception of mild sudorific infusions, at first, I used no other remedy than the vaccine pus, taken as before described, and with the most complete success; the disease not leaving that disfiguration of the skin which is usual after recovery.

In conclusion, I may remark, that before using the vaccine internally, I applied it externally in the usual way, but without the least result. It is necessary that the pus be of the purest quality, taken from a healthy subject, before the period of suppuration, generally on the seventh or eighth day, while in a limpid state, and preserved on glass plates, or better, in glass tubes. I am not aware that any specific remedy, for combating the morbid effects of this terrible disease, has been suggested; but the vaccine matter, so well known to the profession as a preventive, when taken internally, I have found to be the most powerful agent that can be used for its cure, and may be considered as the specific remedy.

Hints on Cancerous Affections. By PROF. W. STONE.—In the last October number of the *New-Orleans Medical Register*, Dr. Stone called the attention of the profession to the use of the phosphate of lime and nitrogenous diet in depraved states of the system in scrofulous diatheses. In the December number he has the following remarks on the treatment of cancerous affections:

“Now, as it is believed that true cancer never occurs in decidedly scrofulous subjects, it is fair to infer that an opposite course of diet is more appropriate; and it is very probable that by directing our attention to the subject, we may be able to fix upon some agent that will aid in arresting the progress of this dreaded disease. Experience has shown that the least nitrogenous diet is best in this disease. In the memoirs of the celebrated Nathan Smith, written some twenty years ago by his son, Nathan R. Smith, of Baltimore, are found the views of this remarkable man, which were based purely upon observation, without a chemical idea to theorise upon. His diet for this disease was vegetable; and of this he thought green corn the best. A case is related of a lady on whom he operated for a very large cancerous breast, involving the glands of the axilla. It was in the season for green corn, and the patient was put upon this arti-

great amount of money, annually, for vaccination, there die every year of small pox, upwards of a thousand persons; and still more incredible, that there are many families who will not be vaccinated, because they consider it entirely useless; this ignorance of the benefits of vaccination, however, exists principally in the interior.

cle of diet. Sufficient was gathered when in the milk, and dried, to last until the season returned, and this made soft by boiling, and used with little or no seasoning. He states that whenever she attempted to return to her usual diet, she experienced shooting pains in the part, but finally, after two years, she gradually changed her diet. The notice of this case was given seven years after the operation, and there was no appearance of a return of the disease. Corn in this state contains, I believe, more phosphorus than any other vegetable, but whether this renders it more suitable to this disease, I am not prepared to say. Professor Bigelow, of Boston, relates a case in which diet kept a cancerous affection dormant, at least, for many years, or rather he states that it was gradually getting well. This was the case of the late distinguished surgeon, Amos Twitchell, of Keane, N. H., with whom I was well acquainted. I dined with him in 1848; he furnished a good dinner for his guests, but dined himself on milk and berries. Vegetables of the blandest kind constituted his main food, but I do not think he confined himself to any one article. The disease was seated in the inner canthus of one of his eyes, was removed many years ago with the knife, but the cicatrix soon took on the same degeneration, and he relied upon diet; and although it might appear to a gourmand a very meagre diet, he was able to undergo more fatigue at the age of 64 than many young men. I mention these cases not as being remarkable in themselves, but because they illustrate the effect of diet, and at the same time cover the views of two medical men, remarkable for their powers of observation.

As a remedy to be given in aid of diet, I think arsenic, with our present knowledge, is the best. There was an able article in the *London Lancet*, I think, in the fall of 1849, on the use of arsenic in lupus and cancrroid diseases, which was interesting because it showed how it should be given to be useful. The preparation used was Fowler's solution, in doses of from two to five drops, and continued for a long time. The writer also called attention to the fact, that instead of increasing the dose after long use, it should be diminished. I have always contended that alteratives, to be useful, should be given in such doses as will not disturb the natural functions. The solution is advised in such doses as will permit its use for an indefinite length of time, without producing any manifest specific effects. I have great confidence that this, together with diet, will exercise a very salutary influence over this dreaded disease."

To the Medical Profession in New-England and New-York.—The undersigned, a committee of the American Medical Association on the epidemics of New-England and New-York, would invite the attention of the profession, within the limits above named, to the subject of their investigations. It is obvious, that the value of the report which will be made, must depend upon the accuracy

and the extent of the information which the committee may be able to gather. And for this information we must look to observers in different portions of the field assigned to us. If the physicians in each district of this field would see that some one of their number report to us what may be called the general facts in regard to the prevalence of epidemics, and then, if individuals would give us the results of their personal experience in practice, a fund of valuable information would be placed in our hands. The points of inquiry to which attention should be directed, are so obvious, that the committee need not to particularize them. The investigation is intended to cover only the year ending December 31, 1851.

In order that the committee may have time to collate and digest the materials which they may receive, they request that all communications be made to them previous to the 1st of March next.

WORTHINGTON HOOKER, *Norwich, Conn.*,

HENRY D. BULKLEY, *New-York*,

HENRY G. CLARK, *Boston*.

Dec. 15, 1851.

Medicinal Extracts.—Recently we have received from the laboratory of Messrs. Tilden & Co., specimens of some extracts, to which we are desirous of calling the particular attention of our readers. Those to which we would more particularly refer, are the Extract of Lactucarium, or Garden Lettuce, and Extract of *Leontodon Taraxacum*, prepared entirely from the root of the plant. These extracts, we find from use, are of superior quality, and will, we feel quite certain, tend greatly to increase the reputation of the house from which they are prepared.

OBITUARY.

DEATH OF PROF. N. HARD. At his residence, in Aurora, Ill., on the 16th of October last, of dysentery. From our cotemporary, the *Western Medico-Chirurgical Journal*, we learn that he was comparatively a young man, but occupied a distinguished position in the ranks of the profession in the West. "He was an indefatigable student, a successful practitioner, an able and accomplished lecturer, and eminently adorned the profession by his great moral worth, and the purity of his private and professional character." He was, at the time of his death, Professor of Anatomy in the College of Physicians and Surgeons of the Iowa University. His contributions to the periodical literature of the profession were many and valuable.

DEATH OF JOHN KEARNY ROGERS, M. D. In this city, on the 9th of November last, of portal phlebitis, aged 58 years. We need hardly say that he was a distinguished member of our profession, one whose loss has been seriously felt by us all. He was born in 1793, and was the son of Dr. J. R. B. Rogers, a practitioner in this city, of great eminence. He was educated at Princeton, N. J., and

studied medicine in this city, under the late Prof. Wright Post, of the College of Physicians and Surgeons. He graduated in 1816, and was at one time House Surgeon to the New-York Hospital. Soon after the completion of his professional studies, he went to Europe, where he spent two years, either in Paris or London, principally in the latter, where he attended the lectures of Sir Astley Cooper, Mr. Benjamin Brodie, Travers, Abernethy, &c., who soon discovered in him the evidences of great promise, and extended to him those marks of attention, which gave evidence of their estimate of his character and ability. Two years after his return to this country, viz., 1820, he, in connection with Dr. Delafield, established the New-York Eye and Ear Infirmary. In 1822 he was appointed one of the Surgeons of the New-York Hospital, a post which he continued to fill, with distinguished ability, up to the time of his death. Dr. Rogers was, in an eminent degree, practical and truthful in all his habits, and to these traits may we attribute his great abhorrence to quackery, in all its forms. As an operator, he was alike distinguished for his ease and adroitness, and as a man for his sterling integrity and noble and generous mind. He never disguised the truth for the *eclat* of an operation. His principal operation, one which will do him honor throughout the surgical world, and all time, was the ligation of the left subclavian artery, within the scaleni muscles, in 1846, and recorded in the 7th volume of this Journal. His contributions to our periodical medical literature were not numerous, but yet sufficient to leave a mark which will not be easily erased. His death is deeply deplored by us all. The New-York Academy of Medicine, of which he was one of the Vice-Presidents, the New-York County Medical Society, and the Trustees and Students of the College of Physicians and Surgeons, passed appropriate resolutions on the occasion of his decease. The following resolutions have been sent us for publication :

College of Physicians and Surgeons.—At a meeting of the Class of 1851–52, of this Institution, held in the College Hall, on the 10th instant, the following Resolutions were unanimously adopted :

Resolved, That the Class have heard with great regret of the death of J. Kearny Rogers, M. D., a Trustee of this College, and a Surgeon of the New-York Hospital.

Resolved, That while the Class would leave to others more competent to form and express opinions on the subject, the task of commemorating the general professional merits of Dr. Rogers, they esteem it a privilege to put on record their deep sense of the kindness and courtesy with which he was ever ready to give to all around him the benefit of his enlarged knowledge and ripe experience.

Resolved, That in presenting to this College his large and valuable collection of anatomical and pathological specimens, Dr. Rogers manifested alike his attachment to his alma mater, and his interest in medical education, and gained for himself a claim on the grateful remembrance of all future students of the Institution.

Resolved, That these Resolutions be published in the New-York Journal of Medicine, New-York Medical Times, Journal of Commerce and Courier and Enquirer, and a copy of them be forwarded, with the most respectful and heartfelt sympathy of the Class, to the family of the deceased.

J. BRYANT SMITH, *Secretary*.

F. U. JOHNSTON, JR., *Chairman*.

New-York, November 13th, 1851.

DEATH OF PROF. GRANVILLE SHARPE PATTISON. In this city, on the 12th of November, after a short illness, of obstruction of the ductus communis choledocus, aged sixty years. As is well known, he was Professor of Anatomy in the Medical Department of the New-York University, a position which he has held since its organization. He was a native of Scotland, a graduate of the University of Glasgow, and a pupil and friend of Allan Burns, the immortal author of "*Observations on the Surgical Anatomy of the Head and Neck.*" In 1818, he came to this country, and in 1820 accepted the appointment of Professor of Surgery in the University of Maryland. After occupying this position for a number of years, he returned to Europe, and soon after received the appointment of Professor of Anatomy in the London University. This post he occupied for a short time, after which he resigned his professorship and returned to the United States, and in 1831 accepted the Professorship of Anatomy in the Jefferson Medical College of Philadelphia. In 1840, on the re-organization of the Medical Department of the New-York University, Dr. Pattison received the appointment of Professor of Anatomy, which chair he continued to fill till his death. As a lecturer, Dr. Pattison was able and accomplished, and had but few, *if any superiors*; his teachings were characterized with singular clearness and precision. As a writer, he contributed somewhat largely to our periodical literature. In 1820, he was associated with Eberle, Ducachet and Revere, in the editorship of *The American Medical Recorder*, a journal which contains many of his contributions. On the occasion of his death, the following resolutions were passed by the faculty:

At a meeting of the Medical Faculty of the University of New-York, held November 12th, 1851, the death of Prof. Pattison having been announced by the President, the following preamble and resolutions were adopted:

Whereas, it has pleased Almighty God to remove from among us our late colleague, Professor Granville Sharpe Pattison:

Resolved, That we have heard with profound regret of the death of our late associate, in whom we recognise the attributes of a Christian, and the worth of an able and faithful colleague.

Resolved, That in the death of Professor Pattison, the University has sustained a heavy loss, and science been deprived of one of its most ardent advocates.

Resolved, That in honor of his memory, the members of this Faculty will wear crape on their left arms for thirty days.

Resolved, That a copy of this preamble and resolutions be sent to his widow, with the sincere condolence of the Medical Faculty.

JNO. W. DRAPER, M. D., President.

DEATH OF JAMES R. MANLEY, M. D. In this city, on the 21st of November, aged 70 years. He was a native of this city. He received his literary education at Columbia College, where he graduated in 1802. In 1805, he received his degree of Doctor in Medicine from the Medical Faculty of the same institution, and defended an able thesis on yellow fever. During the long professional period of forty-five years, he received many evidences of marked professional distinction. At various times he was successively President of the County Medical Society, of the State

Medical Society, Resident Physician of the city, Lecturer on Obstetrics in the College of Physicians and Surgeons, Vice-President of the New-York Academy of Medicine, &c., &c. He was Censor of the Southern District of the State Medical Society for many years, and in 1849 delivered the annual oration before the Academy of Medicine. In 1818, he was associated with Pascalis and Ackerly in the editorship of the *New-York Medical Repository*. His medical writings are confined principally to our periodical medical literature, which shows many contributions from his pen, indicative of a sound and comprehensive mind, trained to thought and reflection. He was a man of great decision of character and of acknowledged ability. His professional integrity knew no spots tarnished by time or worldly gain. His abhorrence to quackery in all its forms was, we had almost said, vindictive in the extreme. On the occasion of his death, the New-York Academy of Medicine, and the Medical Board of Bellevue Hospital, of which he was a member, passed appropriate resolutions.

DEATH OF JAMES E. DE KAY, M. D. At his residence, Oyster Bay, L. I., on the 21st of November, aged 59 years. Dr. De Kay was, we believe, a native of this city, and received his literary education at Columbia College, and medical degree at the College of Physicians and Surgeons. Having a strong predilection for the study of natural history, he devoted almost the entire energies of his thoroughly-trained mind to the study of it. In 1836, when the geological survey of this state was ordered by the legislature, the interesting department of Zoology was assigned to him, and four volumes of that masterly work are mainly the results of his labors, viz : Mammalia, Aves, Pisces et Reptilia and Conchologia. His physical strength became decidedly and irrecoverably impaired in this gigantic labor ; and he died a martyr to the science to which he was so devotedly attached.

DEATH OF JAMES CAMERON, M. D. On the 12th of December, in this city, aged 66 years. He was a native of Scotland, and a graduate of the University of Glasgow. For upwards of thirty years he had been extensively engaged in the practice of medicine in this city. He was a devoted friend of the Academy of Medicine, a Manager of the Society for the Relief of Widows and Orphans of Medical Men ; and, above all, an upright, honest man, and a Christian.

DEATH OF JOHN VANDERPOEL, M. D. At Valatie, Columbia County, October 28, 1851, in his fifty-sixth year. For more than thirty years, Dr. Vanderpoel had been active and untiring in the practice of his profession ; possessed of great energy and force of character, his labors extended over a large field, while no fatigue or distance prevented even the poorest from receiving a full degree of care and attention. His death occasions many a tear of regret, not only among his family and immediate friends, but from those who had so long resorted to his aid in sickness and distress. As a man, he was influential and widely respected ; as a husband and father, he was beloved and venerated.

London Medical Gazette, or Journal of Practical Medicine; edited by ———; for December. (Weekly. London.)

London Journal of Medicine; a Monthly Record of the Medical Sciences; edited by ———; for January and February. (Monthly. London.)

Monthly Journal of Medical Science; edited by WM. ROBERTSON, M. D.; for December and January. (Monthly. Edinburgh.)

The British and Foreign Medico-Chirurgical Review for October. (Quarterly. New-York Edition.)

☞ Communications intended for publication, and Books for review, should be sent, *free of expense*, directed to Dr. Purple, editor of the *New-York Journal of Medicine*, 45 Wall-street, *New-York*. Persons at a distance may direct parcels, *paid* as above, under cover, to M. Hector Bossange, Lib. quai Voltaire, No. 11, *Paris*; or Delf & Trübner, 12 Paternoster Row, *London*; or Lindsay & Blakiston, *Philadelphia*; or Wm. B. Ticknor & Co., *Boston*. The attention of Correspondents is respectfully requested to the above, as the publishers are frequently subject to unnecessary expense for postage and carriage.

All remittances of money and letters on the *business* of the Journal, should be directed to the publishers.

The advertising sheet belongs to the business department of the Journal, and all communications for it should be addressed to the publishers, under whose exclusive control it is.

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PART FIRST. ORIGINAL COMMUNICATIONS.

ART. I. *Notice of some of the Medical Improvements and Discoveries of the last half century, and more particularly in the United States of America.* [Read before the Franklin Medical Society of the State of Massachusetts.] By STEPHEN W. WILLIAMS, M. D., &c., President of the Society.

[Communicated for the New-York Journal of Medicine, &c.]

Gentlemen, Members of the Franklin Medical Association :

IN the rapid lapse of time, on eagle wings, another year has fled. It is numbered with its fifty others of the present century, "with the years beyond the flood." It has, however, with its predecessors, left its traces of utility behind. It is my intention in this address, to point out some of the improvements and discoveries in medical science which have occurred during the last half century, and particularly in the United States of America. It is a subject fertile in important events, but were I to attempt to do much more than merely to glance at some of them, I should fill a volume rather than an ordinary discourse. For no era in the history of the world has been more prolific in improvements and discoveries, and no one has more exalted the medical character in the estimation of the world, and of ourselves, than the last half century.

At the commencement of the nineteenth century, and a few years previous, the doctrines of Cullen and Brown divided the attention of most of the learned physicians of that age. The latter never attained great notoriety either in this country or in England, while that of Cullen was almost universally adopted in both these countries. I have not time to give you in detail the characteristic features of either of the systems of these distinguished physicians. The system of one physician has frequently been the basis upon which another, with some modifications, has established his own, the first laying the foundation, the last erecting the superstructure, so that the discoveries of the first are often of equal, if not greater importance than those of the last, and without the researches of the first, the last could never have had an existence. In this way we may account for the origin of all the improvements in medicine, in science and the arts. Let us then learn to appreciate the value of the researches of the ancients, for without their investigations we should now remain in the same state of comparative ignorance with them. Pope has admirably explained it:

"From nature's chain, whatever link you strike,
Tenth or ten thousandths breaks the chain alike."

About the commencement of this century, the eccentric Darwin promulgated a new system of medicine in his *Zoonomia*, or *Laws of Organic Life*, for an account of which I must refer you to his writings. Few books upon the practice of medicine were to be found at this period upon the shelves even of our most eminent physicians in the country, besides the works of Cullen, Brown, Darwin, Wallis, Sydenham and Pringle. Some physicians, indeed, possessed the more elaborate works of Boerhaave, Van Swieten, Fothergill, and a very few others. In the other branches they were equally deficient. In anatomy, Cheselden, Heister and the Edinburgh system. In surgery, Heister, Sharpe, Turner and Van Swieten. In physiology, Quincy's *Medicina Statica* and Heller. From twenty-five to one hundred and fifty medical books constituted our largest medical libraries. It was a subject of loud complaint, even since I can remember, that pupils frequently left

the offices of their preceptors, and commenced the responsible duties of their profession, with even less than two years' study of some of the books I have enumerated, very many without any other preliminary education than the common school.

A new era, however, just commenced a short time previous to the opening of the nineteenth century. The two oldest and most respectable medical societies in the United States, viz., the New-Jersey Medical Society and the Massachusetts Medical Society, recommended, and they could do nothing but recommend, that before a student could enter the offices of any of their members, he should have a competent knowledge of Latin, Greek and the Mathematics, and that he should afterwards study the profession of medicine three full years before commencing practice. The recommendation of the preceptor was generally the license to practice.

A very few books were published in America previous to the American revolution. Anterior to that time, there were but two medical colleges in the United States. The medical college connected with the University of Pennsylvania was established in the year 1765, just before the breaking out of the revolutionary war. In the year 1767, the medical school connected with Columbia College, in the city of New-York, was established. Both these schools were nearly suspended during the continuance of our struggles with Great Britain; the latter entirely so, and it did not commence operations again, I believe, before the year 1791. The two first degrees of Doctor of Medicine which were ever conferred in America, were given in the year 1769, in Columbia College, even before any were granted in Pennsylvania. Before this period, and even a long time afterwards, our most distinguished medical men went abroad to Europe for the completion of their medical education. The first graduations in Philadelphia were in 1792, when but seven candidates received the degree of Doctor of Medicine, and for the succeeding ten years the average number of graduates was but little more than six a year. The medical college at Boston, connected with Harvard University, was established in the year 1780, and the first degrees were conferred in 1788, upon two candi-

dates. The first medical college in New-Hampshire was established in the year 1798, by Dr. Nathan Smith, who for twelve years sustained all the offices of professors in that school. These were all the medical colleges which were established in the United States before the commencement of the nineteenth century. Probably all these medical colleges, up to the year 1800, had not graduated more than one hundred students.

But three state medical societies were in operation in the United States, previous to the year 1800, viz., the New-Jersey Medical Society, incorporated in the year 1765, the Massachusetts Medical Society, incorporated in the year 1781, and the Connecticut Medical Society, incorporated in the year 1792. These societies had the power of granting licenses for practice, which were considered equivalent to the degree of the doctorate from our colleges. Such was our situation in relation to medical schools, medical societies and medical licenses, prior to the commencement of the nineteenth century. We had, indeed, our eminent men in the profession, and men, too, who have never been surpassed in any age or country. Our immortal Rush was a host and a phalanx in himself, and well does he merit the appellation of the American Hippocrates. We, too, had our Bartrams, Barton, Rittenhouse, Redman, Wistar, Coxe, Post, Hosack, Mitchell, Miller, Warren, Jackson, Thacher, Wells, and very many others of that age, which time will not permit me to enumerate.

Between the years 1790 and 1800, very many standard and most valuable medical works were published or republished in this country. They may be considered as belonging to the commencement of the latter period. The republication of the great work of Benjamin Bell, in four volumes, with splendid plates, was considered a master production, and for more than twenty years no work was considered equal to it on surgery. Rush's *Inquiries and Observations*, in five volumes, octavo, have given immortal renown to its author, and are a proud trophy of American medical lore. Currie's *Climate and Diseases of the United States*, and his work on *Fevers*, Barton's *Materia Medica*, Davidge on *Yellow Fever*, Archer on *Croup*, Caldwell on *Pestilential Diseases*, Barton on *Goitre*, Cathral

on Black Vomit, and some others which I could mention, are among the native American works which were published within that period. Some standard English works, too, within that time, have been published in England, or republished here. One of them, the *Medical Extracts*, with splendid plates, in five volumes, the original price of which was twenty-four dollars.

Periodical medical works just had their commencement at the very close of the last century. Duncan's *Medical Annals* commenced in Great Britain, in the year 1796, and continued eight years, or until the year 1804. This was the first regular medical periodical, if we except the transactions of societies, which was ever published in Great Britain. The *Medical and Physical Journal of London* followed it in the year 1798, in monthly numbers. This most valuable work was taken by most of the eminent physicians in our cities, and by many in the country. I am not sure that this work is not still continued. The second periodical medical work in the English language, and the first in America, was the *Medical Repository*, conducted by Mitchell and Miller, and commenced in the year 1797. After passing through about twenty volumes, it was discontinued. The *Philadelphia Medical and Physical Journal* succeeded it in 1804, and continued through six volumes. The *Philadelphia Medical Museum*, commenced in 1805, and continued through seven volumes. Nineteen others were established, and had a good circulation between the years 1805 and 1827, not one of which is now published under its original name. Some appeared after that period, and are now defunct.

The following list comprises all or nearly all the medical periodicals which are now published in the United States, and they are most valuable and learned works:—the *American Journal of Medical Sciences*, Philadelphia; the *New-York Journal of Medicine*; the *Charleston Medical Journal and Review*, South-Carolina; the *New-Orleans Medical and Surgical Journal*; the *Western Lancet*, Cincinnati; the *St. Louis Medical and Surgical Journal*, Missouri; the *Western Journal of Medicine and Surgery*, Louisville; the *North Western Medical and Surgical Journal*, Chicago; the *Buffalo Medica*

Journal; the Philadelphia Medical Examiner; the Southern Medical and Surgical Journal, Georgia; the New-Hampshire Journal of Medicine; the Medical Gazette, New-York; the Boston Medical and Surgical Journal; the New-Jersey Medical Reporter. In the collateral branches, the American Journal of Insanity; the American Journal and Library of Dental Science, and the splendid work by Carson, with colored plates, of American Medical Botany. The reprints of periodical medical works in this country, of inestimable value, are the British and Foreign Medico-Chirurgical Review; the London Lancet; Baithwaite's Retrospect and Ranking's Abstract; last and best of all American production, the Transactions of the American Medical Association. These periodicals contain the very essence of all the improvements in medicine and surgery. No library can be considered complete or very valuable, which has not copies of one or more of these journals on its shelves. These publications give you the substance of almost every work in our profession, and keep you fully up with all the improvements and discoveries of the times. I consider good medical journals the best possible books for all times, which can be or are published. Their reviews of medical books alone, give an account of almost all the facts of importance which the books contain themselves. Let us not, therefore, consider medical periodicals as useful only for the present day; they are the books for ages. What would we not give to see medical periodicals, from the commencement of our profession as a science, to the present time?

When I commenced the study of medicine in 1808, almost the only work on anatomy in any of the libraries of most of the physicians in the country, was Cheselden's, which we used to recite till we got the contents of it almost to the ends of our tongues. In fact, this was almost the only work on anatomy which had ever been published or republished in this country. A few of our physicians had Heister's Anatomy and the Edinburgh system, in three volumes. Soon after appeared the splendid work of John and Charles Bell upon this subject, in four volumes, with plates. This has since been republished in this country, with notes by the ever to be lamented Godman. Fyfe's Anatomy was published about the

same time, and soon after Wistar's *Anatomy*, by our learned countryman. Then followed Horner's works on *Special Anatomy and Histology*, Godman's and Parson's *Anatomical Investigations*. These were all by our own countrymen. Very fine publications or republications of great value appeared in a short time from this period; such as Brichat's *General Anatomy*, by Hayward; Meckel, in three volumes, by Doane; Bayle, by Gross; Maygrier, by Bedford; the *Elementary Treatise*, by Paxton; Cloquet, by Knox; the great work of Cruveilhier, by Madden, with folio colored plates, the price of which is more than one hundred dollars; Wilson's *Manual* and Von Behr's, not forgetting the inestimable work of Morton, and his *Crania Americana*; the elegant plates of Quain and Wilson; the *Atlas* of Smith and Horner; the *Atlas* of Masse; the plates of Salandier; and the large figures of Manec; and the illustrations of Goddard, Neill and Allen; the *Regional and Surgical Anatomy* of Edwards, Velpeau and Blandin, which have all been republished in the United States, show to what an extent the science of anatomy has advanced in this country, and these works almost supersede the necessity for dissections.

In *Physiology*, at the commencement of this century, we had few works beyond Haller and Quincy. Now our country is almost flooded with works of this description. I need only mention the works of Richerand, Oliver, Dunglison, Muller, Carpenter, Todd, Bowman, Roget, Combe, Harrison, Hayward, Lee, Coates, Griscom and Jarvis. These are but a part of the writers on this subject.

In *Surgery*, the most important original American treatises, besides what are to be found in monographs and papers in our journals, are those of Dorsey, Nathan Smith, Gibson and McClellan; while reprints of Benjamin, John and Charles Bell, Hunter, Pierson, Abernethy, the Cooper's, Travers, Brodie, Guthrie; and last, not least, the magnificent work of Velpeau, by Mott, the greatest living surgeon in the world, in three volumes, of more than three thousand pages, and a splendid atlas; also, the lectures of Dupuytren, Lisfranc and Lallemand, the excellent works of Chelius, Liston, Fergusson and Miller, besides innumerable on special surgical diseases,

not the least of which are the works of our distinguished countryman, Dr. Warren, on Tumors, Bushe on the Rectum, Parish on Hernia, Anderson's Surgical Anatomy, Smith's Surgical Anatomy of the Arteries, Pancoast's Operative Surgery, Darrach's drawings of the Anatomy of the Groin, &c., &c. I have only referred to some of the most prominent among the hundred of works on Surgery, which are now to be found on the shelves of our enterprising booksellers, and in the public and private libraries of our distinguished American physicians.

In the Practice of Medicine, no longer ago than the year 1808, we thought ourselves fortunate if we had any more modern works than Van Swieten, Boërhaave, the Medical Extracts, Cullen, Darwin, Brown, and the medical periodicals of the time. Many had not even the advantages of these. I recollect the time when I hailed with enthusiasm the appearance of Thomas' Practice, with notes by Hosack. It was considered a wonderful work, and it now has passed through four or five editions. It was soon after that this work, erudite as it was, was seen to be falling into the back ground, and that it did not keep up with the great discoveries of the age. A republication of Gregory, with notes by an American physician, soon after appeared; then the work of Eberle, our distinguished countryman. This was succeeded by Dewees, one of the most distinguished obstetricians in America. McIntosh's Practice, with notes by Morton, was published about the same time; then the work of Bell and Stokes upon the same subject, and of Graves; then the Library of Practical Medicine, in five volumes, large octavo; then the Medical Cyclopædia, in four volumes. Watson's Practice; the great work of Copland, now in process of publication, but which I am apprehensive none of us will ever see the end of. Should it ever be finished, it will be the best compend of medical practice ever published. The learned work of Wood is now considered the standard of professional knowledge, in two large octavo volumes. Were I to attempt to enumerate all the works upon the practice of physic, which have appeared within the last twenty-five years, I should extend my list indefinitely.

In *Materia Medica* I cannot omit to mention the great work of Pereira, which is a cyclopædia upon this subject of itself, and has been republished in this country, of Dunglison, Barton, Coxe, Wood, Bache, Ellis, Paine, Harrison, Beck, Carpenter, and many others.

In Midwifery, the works of Dewees, Bard, Meigs and Tucker, among our native treatises. The splendid work of Moreau, with notes by Goddard, Maygrier, with plates, Velpeau, by Meigs, Chailly, by Bedford, are republications in this country, as well as the works of Denman, Burns, Maunsell, Collins, Lee, Churchill, Ramsbotham, Blundell and Ryan.

In Pathological Anatomy, which is now attracting so much attention in our profession, we have the works of Horner, Gross, J. B. S. Jackson and Stillé, of American origin, besides the works of Baillie, Andral, by Townsend, Rakstansky, by Peters, and the works of Mayo, Vogel and Hasse.

In the other branches of our profession, I can only mention a few of the most important, some of which have been republished here, and some are original. Among the former are Hufeland, and Lugol, by Doane, on Scrofula; of Andral on the Blood, by Meigs and Stillé; of Clymer, Willis, Bird and Prout, on the Urinary Organs; Carinichael, Ricord and Acton, on Venereal Affections; Rush, Ray, Esquirol, Combe, Millengen, Woodward and others, on Insanity; Rush's Pringle on the Diseases of the Army; Johnson and Martin on Tropical Climates; the splendid works of Bigelow, Barton and Carson, with colored plates, which are sufficient to give immortal renown to the authors and our country. Forry on Climate, and the great work of Drake on the Diseases of the West, must not be forgotten in this enumeration; nor the Cyclopædia of Practical Medicine, commenced in Philadelphia in the year 1835, which, when finished, will be a medical library complete in itself.

These are but a tithe, a drop in the bucket, in comparison with the whole number of medical works which have issued, and are daily issuing from the American press. I merely mention what I have named to show the progress of American medical literature even within the last twenty-five years,

and they are published at so cheap a rate that no physician can be justified without filling his shelves with the most important of them ; as they are altogether the best, and in fact, they are almost the only guides to correct and judicious medical practice at the bedside of the sick. A physician without the standard medical works of the day, and without some of the important medical periodicals of the time, by which alone he can keep pace with the improvements of the age, is like a mechanic without tools. The late Dr. Hosack, of New-York, who, next to Dr. Rush, was in his day one of the most eminent physicians in America, never made a truer observation than the following : "No physician can accurately remember all the details of his practice more than three years." What a cutting rebuke is this upon those who pretend to practice physic upon experience alone, and who decry the use of books, like many of our modern wiseacres. Of how much importance then is it, that the libraries of our physicians should contain the best, and be replenished with the latest books in our profession ? Diseases are constantly assuming new types and characters, and new books alone will accurately describe them. The physicians in Boston are generally acknowledged to be among some of the best practitioners in the United States. With pride and exultation I heard it asserted by the committee on medical education in the American Medical Association, which had its session in Boston, in 1849, that there were private individual libraries there containing more than five thousand volumes. These libraries, I know, are owned by the most eminent practitioners in that city. The library of the venerable Dr. John Redman Coxe, of Philadelphia, likewise one of our best practitioners, contains more than fourteen thousand volumes, principally of medical books. A medical library can never be too large for a practising physician. Good medical books are certainly the best counsellors in cases of anxiety and doubt. Every physician, however large his business, has time to consult his books in the intervals of his practice. I know it is customary for certain interested individuals to decry the physician who devotes much of his attention to his studies, as a book-worm, and as a theorist, learned, but without judgment to apply his learning at

the bedside of his patient. But this idle allegation is only made by those who are too indolent to study themselves, and who are nothing but drones in the profession. The public rightly appreciate the slander and the motive. I am happy to be able to state, that there are private medical libraries, owned by physicians in this county, of from one hundred to one thousand volumes.

I have already mentioned, that at the commencement of the nineteenth century, but four medical colleges, or public medical schools, had been established in the United States, viz., the Medical University of Pennsylvania, the medical school of Columbia College, New-York, the medical school connected with Harvard College, and the medical school at Dartmouth College, established by Dr. Nathan Smith. No other medical school was established in the United States until the year 1806, when the Medical University of Maryland was opened at Baltimore. Now, more than forty respectable medical colleges are in successful operation in the United States; and every year augments the number. Of these, two are in Vermont, one in Maine, one in New-Hampshire, two in Massachusetts, one in Connecticut, six in New-York, four in Pennsylvania, two in Maryland, one in the District of Columbia, three in Virginia, one in South Carolina, one in Georgia, one in Louisiana, one in Tennessee, two in Kentucky, three in Ohio, two in Indiana, two in Illinois, two in Missouri, two in Wisconsin and one in Iowa. Seven of these are in New-England, ten in New-York and Pennsylvania, eight are in the Southern States, fifteen in the Western States, most of which, forty-five years ago, were only a howling wilderness, and had only been trodden by the footsteps of the savage Indian, prowling for prey, and of the beasts of the forest.

At these schools are taught the following branches: Institutes of Medicine, Theory and Practice of Physic, Institutes and Practice of Surgery, Materia Medica, Medical Botany, Medical Jurisprudence, General, Descriptive and Surgical Anatomy, General Therapeutics, Midwifery, Diseases of Women and Children, Clinics and Chemistry. None of these have a term of less than four months duration, and many of them have adopted the regulation suggested by the American

Medical Association, of a term of six months. There can be but little to choose between any of these schools. For the degree of the doctorate, they all require that the student, before commencing the study of his profession, shall be well acquainted with the English and Latin languages, and shall have a knowledge of Mathematics and Natural Philosophy; that he shall have studied three full years, including the time of lectures, with some regular practitioner of medicine; that he shall have attended two full courses of lectures in some of the accredited schools of medicine in the country, and shall have passed through a regular examination before the college faculty of medicine, and a board of censors, and shall have read and defended a dissertation on some medical subject. Scarcely a greater requirement is demanded at any European Medical College, and certainly I believe that no greater facilities or opportunities for procuring a medical education can be obtained in Europe, than in the United States. If our young men now go abroad to pursue their medical studies, it may be more for the name of so doing, than for any real utility. If we continue to improve for the next fifty years, as fast as we have during the last half century, it will not be surprising, if it is as customary for European medical students to resort to America for the completion of their education, as it has heretofore been for American students to resort to Europe.

It has been supposed by many, that the multiplication of medical schools in the United States was an evil greatly to be deplored, as that thereby the facilities for obtaining a medical education would be so great, that the standard of medical knowledge would be lowered, and that the country would be flooded with half educated physicians. Let us examine this subject. In forty medical schools in the United States, there probably attend annually about four thousand pupils, or, on an average, one hundred students to each school, which I believe is not far from the fact. It is supposed that at least one quarter of these receive the degree of the doctorate in each year. There are in the United States about twenty-five millions of inhabitants at the present time. It is supposed that about one physician is required for about one thousand

inhabitants, which is a small estimate. This will give twenty-five thousand physicians to the population of the country. If the increase should be as great for the time to come as it has been for a few years past, one million of inhabitants will be annually added to our population, which will require one thousand physicians more a year, at the rate we have estimated, just about as many as now graduate. So that our forty schools can now be well sustained, and it will have room for the erection of many more new schools, which will undoubtedly be established and supported.

When the Berkshire Medical Institution was established, in the year 1823, which was the fourteenth medical school organized in the Union, a hue and cry was raised against it in Boston and elsewhere, stating that the school was not needed, and that the multiplication of medical schools tended to increase empiricism; and an attempt was made to take away from her some of the privileges which were awarded to Harvard Medical College. The attempt was not successful. Berkshire went on her way rejoicing; and she has always kept pace with her rival at Boston in the number of her students, and her requirements for the doctorate have always been the same with those of Harvard. Some years she has even had more students than the school at Boston. It is now almost universally acknowledged that as good a medical education can be obtained at Berkshire, as at Boston. There was the same opposition to the Jefferson Medical College, at Philadelphia, by the University of Pennsylvania; and although by many the University has been considered the best medical school in the Union, it is now generally acknowledged that Jefferson Medical College is in every respect equal to her, both in point of numbers and requirements. These remarks show that our medical schools are not increasing too rapidly.

I have mentioned, that at the commencement of the present century there were but three state medical societies in existence in the United States, viz., the New-Jersey, Massachusetts and Connecticut Medical Societies. Several others were established previous to the year 1840, and, among the rest, the New-York, the New-Hampshire, Vermont, Rhode Island,

Tennessee and Ohio state medical societies, and some others which do not immediately occur to me. Their multiplicity did not increase with the medical schools, though few questioned their utility. Between the years 1825 and 1840, there was some discussion about the propriety of establishing a national medical society, which should embrace among its members some of the most respectable physicians in all the states of the Union, the object of which should be to form a bond of union between all the regular physicians and medical societies and schools in the United States, and agree upon a regular system of education, and a uniformity of action and acquirements. An attempt was made for this purpose in the year 1827, and a New-England convention of physicians was held at Northampton, Massachusetts, that year, composed of delegates from the New-England states, which recommended a set of resolutions to the several states in the Union, which were not adopted. In the year 1845, the Medical Society of the state of New-York issued circulars to all the medical colleges and regular medical societies in the United States to meet, by delegates, in convention, in the city of New-York, in May, 1846, for the purpose of establishing a national medical society. One hundred and nineteen delegates assembled in that city on the 1st of May, 1846, from fourteen different states. Committees were appointed upon various subjects, and one for drafting a constitution and laws for the society, who were to report at an adjourned meeting, which was to be held at Philadelphia, May, 1847, at which meeting nearly four hundred members attended from twenty-three states, and from almost all the medical colleges and societies in the Union. A constitution and by-laws were adopted by that body, and the establishment at that time of the American Medical Association is the proudest era in the annals of American medical history. It is now patronized and sustained by eminent members of the profession, from every state medical society, and from almost every other eminent medical society and medical college in the Union. It already numbers more than one thousand members, from Texas to Maine, and its numbers are annually increasing. Every regular medical society throughout the Union is en-

titled to one delegate in it, for every ten members, and an additional one for every fraction of more than half this number.

Among its committees is one on the medical sciences, who are annually to report on the progress of improvements in medical science in America; one on practical medicine, who are to report on all the improvements in the practice of our profession, during the year; one on surgery, who are to report on all the discoveries and improvements in surgical diseases during the year; one on obstetrics, who are to report on midwifery and the diseases of women and children; one on medical education, who shall report on the general condition of medical education in the United States, in comparison with the state of medical education in other enlightened nations; one on American medical literature, who shall prepare an annual report on the general character of the periodical medical publications of the United States, in reference to the more important articles therein presented to the profession, on original medical publications, on medical compilations and compends by American writers, on American reprints of foreign medical works, and on all such measures as may be deemed advisable for encouraging and maintaining a national literature of our own; one on indigenous Medical Botany and *Materia Medica*, to give an account of the medicinal plants and substances found in our country; and one on American Medical Biography, giving some account of the eminent deceased physicians of our country. It will be seen by the above, that an attention to these subjects will give a complete medical history of all the medical improvements and discoveries which are made in our country during the year. Already four volumes of its transactions have been published, containing an account of every important improvement and discovery in our profession, which has been made within the last four years. They form decidedly the best periodical work ever published in America, and a copy of them should be in the hands of every physician in the country. The society is itinerant, and is to hold its meetings in the principal cities in the Union, as agreed upon by the members. It has already met in New-York, Philadelphia, Baltimore, Boston, Cincinnati, Charleston, South-Carolina,

and is this year to hold its session in Richmond, Virginia. Its Presidents have been some of the most distinguished medical men in America, viz., Dr. Jonathan Knight, of New-Haven, Dr. Nathaniel Chapman, of Philadelphia, Dr. A. H. Stevens, of New-York, Dr. John C. Warren, of Boston, Dr. Reuben D. Mussey, of Cincinnati, and Dr. James Moultrie, of Charleston. Its members, principally delegates from medical societies and colleges, are certainly among the most eminent men in the United States, which is a sufficient guarantee for the perpetuity and usefulness of the institution.

From the brief and very imperfect sketch of the progress of medical science, medical literature and medical institutions in the United States, in the last half century, I proceed to give a slight account of some of the brilliant discoveries in the science of medicine,—discoveries which have exalted the medical profession, I may say with confidence, above that of any other of her sister professions. Among the first and most brilliant of all, was the discovery of the efficacy of vaccination against the ravages of small pox, by Dr. Edward Jenner, of England. Although the discovery was made and tested at the very close of the last century, yet the full benefit of it did not accrue to the public till after the commencement of the nineteenth century. It was not introduced into the United States, as a prophylactic against the small pox, till about the year 1802, when the venerable Dr. John Redman Coxe, who is now living, and Dr. Benjamin Waterhouse, introduced it in this country.

It is not necessary, in an audience like this, to say any thing about the origin of the discovery, or to give a history of its immortal discoverer. These things must be familiar to you all. It may be sufficient to say, that previous to this century, the ravages of small pox were considered to be vastly greater throughout the world, than those of the plague and all other pestilential diseases. Many hundred thousand people annually fell victims to this terrific destroyer. No longer ago than the year 1614, the small pox occurred universally, and it was never known before to be so fatal. It almost laid waste, Corte, Alexandria, Calabria, Turkey, Venice, Italy, Dalmatia, Germany, France, England and Poland.

At a later period, no longer ago than 1838, it nearly annihilated great numbers of Indian tribes at the west, who had not known, or had not availed themselves of the great discovery of Jenner; the Mandans, the Gros Ventras or Minictons, the Ricas, the Black-feet, the Assimboins, the Winnebagoes, the Sioux, the Choctaws and Chickasaws, numbering at that time, many thousand souls, were all that year almost entirely annihilated by it. For a long while previous to the introduction of vaccination in Ceylon, the small pox annually carried off, according to the most moderate calculation, a ninth part of the population. The proportion of those who died from it in the natural way, was one in four and a half.

Even in small pox, inoculation, under the best plan of cure, about one in thirty die. The small pox, in consequence of the great discovery of Jenner, is now in a great measure disrobed of its terrors, and the average duration of human life is extended two-years, or from thirty to thirty-two years, by it. Can any other discovery on any other subject, in point of universal utility, be considered at all comparable to it? Even the great improvements and discoveries by steam and by the electric telegraph, sink into comparative insignificance by the side of it.

True it is, that we may not yet have made all the discoveries and improvements in relation to vaccination which the subject will admit, yet it cannot be doubted that this is one of the most *wonderful* and *great* of all discoveries, and must stand as such in the records of medicine.

So short has been the period since the time of its discovery, that the profession and the public have not, till recently, been aware that one inoculation has not been sufficient entirely to prevent a disease somewhat resembling the small pox, and one which will actually communicate the genuine small pox. The varioloid, however, is considered to be comparatively a harmless disease, scarcely any one ever having died from it. This does not at all detract from the value of vaccination, for it has been demonstrated beyond a doubt, that revaccination once in a few years, is an entire and absolute preventive of the small pox, and that the cow pox is still as efficacious as ever. The same is true of the inoculated small pox, and even

of the small pox in the natural way. The patient having had the small pox in either way, is equally liable to that species or modification of the small pox, the varioloid, as the one which has been vaccinated, and the longer the period of time which has elapsed since the inoculation either with the matter of small pox or cow pox, the more severe will be the symptoms of the varioloid when taken. Vaccination will entirely prevent the small pox for many years, and will modify it for a long time to come. Revaccination, frequently repeated, will entirely eradicate it from the system. The discovery of Jenner, therefore, stands as brilliant and useful as ever, and in the process of time will probably eradicate that loathsome disease, the small pox, from the earth. It is not an anomaly in the history of contagious diseases, that the small pox can be taken the second time. We have, most of us, seen cases of secondary whooping cough and scarlet fever.

Without paying much regard to chronological order as to process of time, we may be allowed to mention the importance of the discovery of the nitrous acid fumigations for destroying the contagious effluvia of putrid, pestilential and contagious diseases, particularly putrid fevers and plague in tropical climates, and particularly on ship-board. For this invaluable discovery, the British government awarded to Dr. James Carmichael Smith, F. R. S., several thousand pounds sterling. Fever and plague had heretofore been considered the two greatest outlets of human life. Indeed, except the small pox, plague was considered to be the greatest scourge of the human race, and to be productive of greater mortality than any other known complaint. Since the promulgation of this great prophylactic, this direful malady and putrid fever, in all their direful and mortal forms, are disrobed of half their terrors, and commercial adventurers now fearlessly whiten every sea with their canvas, and the dread of contagion no longer deters our enterprising merchants from visiting the oceans of the torrid zones, and returning triumphantly with the rich products of those hitherto pestilential climes. The plague is now, in a great measure, owing to the employment of disinfecting agents, almost entirely banished from the face of the earth. The two discoveries of vaccination and the

nitrous acid fumigation, are sufficient to give immortal renown to the science of medicine, and have greatly increased the average duration of human life. Both these discoveries have been made within half a dozen years of the commencement of the present half century, and may well come under that epoch of time. Let us hope and believe, that within a shorter period of time, a remedy will be discovered by the scientific investigations of our eminent physicians, which will arrest the progress, and annihilate the ravages of that fell destroyer of the human race, the cholera.

Connected with the discovery of the nitrous acid fumigations, should be mentioned the disinfecting agent of Labarraque, the chlorides of lime and soda, though promulgated at a later period. By means of these agents, the human and animal putrefaction process is arrested, and loathsome decomposing effluvia from putrid animal substances is rendered entirely innocuous. The most loathsome, disgusting and fermenting animal matter is rendered sweet and harmless by these substances. The sources of disease are thereby cut short by them, and physicians are enabled to pursue their anatomical investigations, both in morbid and special anatomy, without disgust or danger. At a later period still, the disinfecting fluid of Ledoyen, composed principally of the chlorides of zinc and lead, may be mentioned perhaps with equal honor.

Nor should we pass over the discovery within this period of the efficacy of the malt and charcoal poultices in arresting the progress of gangrene and mortification in the living subject. Thousands of limbs, as well as lives, have been saved by the timely application of these almost divine remedies.

The use of cold water, too, in the treatment of many diseases, and particularly of febrile complaints, was revived, if not promulgated by the immortal Currie, not far from the year 1797. Previous to his time many patients in fevers were sacrificed by confining them in hot unventilated rooms, and sweating them under blankets and bed-clothes, to induce perspiration, which was supposed to be almost the only outlet by which disease was driven from the system. This method of treating febrile diseases in the hot stage, by cold effusions

and the shower bath, show that the cold water douches of the hydropathists of the present day, is no modern invention, and was in use long before Presnitz entered upon the scene of action. True it is, that the use of cold water is a most invaluable agent in the cure of many medical and surgical complaints, and no class of men more highly estimate it, when rightly employed, than regular physicians; but when hydropathy is made an exclusive system of practice, and is proclaimed by its admirers to be an infallible remedy in the cure of all diseases, and especially when it is connected with that phantom of the brain termed homœopathy, it is a most dangerous species of empiricism and quackery, which, like all its kindred delusions, will have its little day, and die and be forgotten like Perkins Tractors, and Mesmerism.

I am a strong advocate for the use of cold water in many diseases, but when, as I have seen it in many complaints, induce most severe rigors, and metastasis to important vital organs, I am satisfied it does more harm than good, and that many patients have been hastened by it to their "dark and narrow house," and I very much fear that it will yet hurry thousands of deluded victims to an untimely grave. It is to the exclusive empirical use and abuse of it that I object, and not to the judicious employment of it; I condemn the administration of it as an exclusive system of medicine, while I hail the judicious use of it as one of the great medical improvements of the last half century.

The use of the air-pump vapor bath in the cure of many chronic complaints may be mentioned as one of the improvements in medicine in the period of which I am speaking. The application of steam to paralytic and contracted limbs, and other chronic affections, through the medium of Smith's air-pump vapor bath, was first promulgated by Smith and Blegborough, of England, as long ago as the year 1802, and the great utility of it has been tested and acknowledged by many of the most scientific physicians in the world. In many cases of sprains, bruises and local pains, I have no doubt that steaming, or steeping, to make use of an obsolete term, is vastly more efficacious and safe than cold water applications. The effects, immediate or remote, are often more

soothing and salutary than the more chilling use of cold water and refrigerants. In cases of severe bruises and dangerous accidents, the vital current is often so lowered that the patient is surrounded almost by the chilling embraces of death. Reaction must be restored immediately, or the vital current will be forever annihilated. This is always the case in suspended animation, from whatever cause it may occur. This, with artificial breathing, is the only means by which vitality and animation can be restored. In many instances a resort to the lancet may be prevented by it.

It might have been from seeing the good effects of this, that that noted empiric, Samuel Thompson, promulgated his infamous system of curing all diseases by means of Lobelia and steam. Let not, however, the regular practice of medicine be accused of aiding that nefarious and murderous practice in consequence of a valuable discovery in our profession by regular physicians. As well may we impute the phantom of the infinitesimal doses of nothing of the homœopathists to the discoveries of Louis and Broussais, because they make use of little else in gastro-enteritis and fevers than a little gum-water and leeching. It remains, however, to be proved, whether the physiological system of the French physicians is in fact an improvement or not. Of one thing I am certain, the practice is not generally adopted by American physicians in these cases.

The concentration of some of our invaluable medical agents, by means of chemical discoveries, is not the least important improvement of the age. We now generally employ the preparations of bark, opium and many other articles, under the forms of sulphate of Quinine, the sulphate and acetate of Morphine, and very many other articles. A few grains of these substances contain ounces of the original articles from which they were prepared. A grand desideratum, this, where smallness of dose is of consequence. Of so much importance did the French government consider this discovery, long after the commencement of the present century, that they awarded to Messieurs Pelletier and Cavanton the sum of ten thousand francs for it. This was in a measure owing to the great light which chemistry has thrown upon the preparations of medi-

cine, independent of the brilliant light which has been shed upon the science of medicine by means of the great discoveries in organic chemistry. It would occupy too much of my discourse to enter into a detailed account of the progress of these discoveries. I cannot, however, pass over the great discovery of Sir Humphrey Davy, in demonstrating to the world the fact of the compound nature of soda and potass, from which proceed the metals of sodium and potassium, resembling lead in their structure and appearance, which inflame upon exposure to the atmosphere, and which can only be preserved in liquid naphtha. Many of the previous principles and theories of chemistry have been overturned by these brilliant discoveries of Davy.

To Dr. John Stearns, of Albany, we are indebted for the discovery of the Ergot of Rye as an ecboic and promoter of parturient pains in the process of labor in midwifery. This, next to chloroform and the anæsthesia in labor, of which I shall shortly speak, I consider to be one of the greatest discoveries in abridging the tortures of parturition which has yet been promulgated. In many cases this divests the pains of labor of half their duration, and in many cases prevents a resort to the disagreeable necessity of the application of instruments. Too much cannot be said in its praise. Its utility in preventing and arresting uterine hemorrhage, and its value as an emenagogue, are too well known to the profession to need a repetition here. Dr. Stearns promulgated this great discovery in 1809, and won immortal honor by it.

I ought not to omit to mention, in this place, the discovery of the Hive Syrup, by Dr. John Redman Coxe, of Philadelphia, in the year 1811. By the timely application of this most invaluable remedy in one of the most distressing and wide-spread maladies among children in the United States, thousands have been rescued from an untimely grave. The profession is under the deepest obligation to Dr. Coxe for promptly promulgating the formula for the preparation of this most valuable, I had almost said specific, but that term should be banished from the vocabulary of physicians. How different has been the proceedings of Dr. Coxe in relation to this subject, from many pretended regular physicians who have

boasted to have discovered panaceas for the various ills of human life, and have kept their boasted remedies secret! The disgraceful recommendations of respectable clergymen, who are as ignorant of the properties of the articles they recommend as the benighted Hottentot, has greatly tended to perpetuate the evil in society. The medical public now, however, frown with contempt upon such interference, and they consider it as unjust in them to interfere in matters in relation to our profession, as it would be for us to interfere in their business in relation to church government. It is hoped that popular medical indignation upon such procedures will hereafter prevent such interference in relation to empirics and quack medicines.

Dr. Physic, of Philadelphia, first recommended the use of blisters in arresting the progress of mortification, in 1804. This has enabled the surgeon to amputate a limb with safety, while before it was considered fatal thus to operate, as it was thought that mortification would, after that, invariably strike the stump and destroy the patient. I perceive of late that amputation has been successfully resorted to in mortification, even before the line of demarcation had been formed. This same distinguished surgeon, about the same time, discovered and promulgated the efficacy of setons in inducing union of ununited fractures, a discovery of no little importance.

The radical cure of hydrocele, by injections, first adventured by Earle, in the early part of this century, is deserving of honorable notice. It supersedes the necessity of resorting to the formidable operation of incision, and removing a portion of the tunica vaginalis.

The operation of staphyloraphia, or uniting the cleft palate, which so often occurs in cases of hair-lip, was first performed by Graefe, of Berlin, in the year 1814. It has since been improved upon by Dieffenbach, and it is now frequently performed with success. Nearly allied to this is the Taliacotian operation, sometimes called rhinoplasty, by which lost portions of the skin, or of the dermoid substance, are restored, and cicatrices are removed by displacement from the sound skin of the neighboring parts. Even entirely severed portions of the body, such as large portions of muscle and skin, and the

fingers and toes, have been restored to their normal state, and useful functions. It is a discovery of the last half century, as is that of tenotomy, by which distortions of the neck, club-feet and strabismus are obviated and cured. Formerly it was supposed, that in a wound of the tendon, there was the utmost danger of tetanus or lock-jaw. Now tendons are severed with as little danger as muscle, or any other part of the human body.

The various apparatus, too, for extending and keeping in place distorted and fractured limbs, let the abnormal condition be from whatever cause, may be mentioned with pride and triumph, as the discoveries of the present age. We cannot too highly extol the institutions of our country which are devoting their energies to the restoration of distorted limbs, which would otherwise render the subjects cripples for life. I would, also, take occasion to mention in this place the apparatus of Dr. Smith, of Baltimore, for the treatment of fractures of the lower extremities, and of Jarvis' Surgical Adjuster. I should do injustice to the claims of B. R. Palmer, though not a surgeon or physician, for his discovery of his artificial leg, which almost supplies the place of a natural one, with its springs, and which is now eliciting the wonder and admiration of the most distinguished surgeons in Europe. Truly, in this age of wonders, we may exclaim, in the language of Pope,—

"The dumb shall speak, the lame his crutch forego,
And leap exulting like the bounding roe."

We may, also, here be permitted to mention the discovery and invention of the adhesive straps of Baynton and Horner, in the cure of the inveterate ulcers and sore legs of old people, and also of vitiated constitutions. Adhesive plaster, too, within this period, has almost done away with the use of the needle and the suture, even in cases of the largest wounds.

The operation of removing the lower jaw at the temporo-maxillary articulation, for ostro-sarcoma or cancerous degeneration of the bone, was first performed in America, and in the world, by Dr. Mott, as early as the year 1821. It has since been frequently performed by various surgeons in the

United States and in Europe. Some surgeons are in the habit of tying the carotid arteries previous to the operation, some are not. Dr. Mott, who has performed the operation more frequently than any other surgeon, once performed it without tying it, and came near losing the patient from hemorrhage. He afterwards wrote me, that in similar operations he always tied the artery previous to the operation of the amputation of the jaw, and that he considered it altogether the safest course, and one which he shall always adopt. This is certainly the highest surgical authority. Other surgeons have, however, successfully performed this operation without tying the carotid. Large portions of the upper jaw, too, have often been amputated with success, for this terrible complaint. Unfortunately, however, so many of these cases prove ultimately fatal, that many surgeons refuse to perform the operation at all, on account of the contamination of the system by the virus. As in the scirrhus breast, too many of the operations are too long delayed, and the operation becomes unnecessary and useless ; so of osteo-sarcoma of the jaw and other bones. It cannot, however, be denied, that the operation both upon the jaw and breast, is sometimes successful ; and it should not, therefore, be entirely abandoned, though it should be performed much less frequently than formerly.

The discovery of Lithontripsy, or a method of removing the stone from the bladder, by the method of crushing and grinding to minute fragments within that organ, so that they may be scooped out and washed away, without a resort to the terrific operation of lithotomy, was the invention of Mons. Civiale, of France, within the present half century. Of so great magnitude and importance did the Academy of the Sciences in France consider the greatness and value of the discovery, that they awarded him the sum of ten thousand francs for it. This operation, with the improvements upon it by Herteleup, is now in very general use, both in this country and Europe, though the veteran and distinguished surgeon, Dr. Dudley, of Lexington, Kentucky, still adheres to the old operation of lithotomy, and he has performed that operation successfully more than two hundred times. Perhaps the discovery of the operation by Civiale was induced by the fact that Colonel Hugh

Martin, of England, in the year 1782, once removed a stone from his own bladder by means of a file. The operation was performed much in the same manner with that of Civiale and Herteleup.

The boldness with which surgeons have performed operations for the removal of large portions of diseased organs and members within the last half century, has been a subject of wonder and astonishment. I am not aware that the formidable operation of removing the lower limb at the hip joint was ever performed in this country before it was successfully done by our distinguished surgeon, Dr. Mott, in the person of George Biles, in the year 1824. Since then it has frequently and successfully been performed, and quite recently by his son-in-law, Dr. Van Buren, also a very distinguished surgeon. Operations upon the joints were formerly considered fatal, and were sedulously avoided. I am not aware that the operation of removing the arm at the shoulder joint had been more than once resorted to even in Europe, before the commencement of the nineteenth century. The father of the celebrated surgeon, Ledran, first performed the operation in the year 1715. It has been performed a few times since in Europe. I have been told that the late Dr. Josiah Goodhue, of Hadley, Massachusetts, was the first American surgeon who successfully performed this operation in this country. This, and amputation at the hip joint, are now common operations. Even amputations have been performed successfully at the knee and elbow joints within a few years. Dr. Blaquiere first successfully amputated at the knee joint, in Mexico, in the year 1833. Exsection of the knee and elbow joints are now frequently performed for ankylosis.

But the greatest operation of modern times, of any kind or description, which had previously been performed, was that of Dr. Mott, for the excision of the clavicle for osteo-sarcoma. This was acknowledged by all, at the time, to be the most difficult and dangerous operation that had ever been performed upon the living human subject. This alone, if he had not already received the appellation of the first and best living surgeon in the world, would have been sufficient to have given it to him. This was performed more than twenty years ago,

and the patient was a clergyman of South Carolina, who still lives, a monument of the benefit of surgery. "Dr. Mussey had excised the whole arm and clavicle in a secondary operation; and at least two accidents had occurred previous to 1820, (one in the French army,) in which the upper extremity was lost without destroying life." Cheselden has given a plate of a man whose arm, with the scapula, was torn from his body, in a mill, in the year 1737, and the patient recovered. "But it was reserved for the late Dr. McClellan, of Philadelphia, to amputate the whole limb, including the collar bone." "He also extirpated, repeatedly, (it is said, eleven times,) the parotid gland, a fact which has been denied as stoutly, perhaps, as any other in surgery. This was done, also, without taking up the carotid artery," and it is now a frequent operation.

The successful operation of removing large and important organs from the human body, must be considered one of the greatest triumphs of modern surgery. Our distinguished countryman, Dr. McDowell, soon after the commencement of the present century, was the first surgeon in America, and I believe in the world, who successfully removed the ovarium from the female in disease. It is now an operation of quite common occurrence. Even the neck of the uterus, and the uterus itself, has often been extirpated with safety, since the year 1822, when Dr. Lawter, of Edinburgh, successfully removed this organ from the living human subject, and the patient recovered. Although death has occurred after some of these operations, yet as they are sometimes successful, they should not be entirely abandoned. John Bell, and all preceding surgeons, considered the wounding of the peritoneum in surgical operations and accidents, to be always attended with great danger, and to be almost always fatal. We now often see the peritoneum cut, torn and lacerated to a great extent, and the patient recovers. The fear of such inflammation is, therefore, more a phantom of the imagination than a reality. The operation for immobility of the lower jaw originated with Dr. Mott, and he has now performed it between twenty and thirty times. He has also performed the nasal, to distinguish it from the upper jaw operations, for ostro-

sarcoma. It was done by him "to remove a fibrous tumor of years standing, which extended from beneath the nares in front, to some distance below the velum behind."

The use of the microscope, in the investigation and examination of diseased and healthy tissues, is of quite recent occurrence; and the revivification of the uses of it is almost considered a discovery of the last half century, though Liewenhoeck had been in the habit of employing it for this very purpose more than one hundred years before. It may be productive of great utility in these investigations.

But the great and distinguishing feature in surgical discoveries in the last half century, is the boldness with which surgical operations have been performed upon important arteries near the source and citadel of life, the heart. To Dr. Mott we are indebted, more than any other surgeon, for the fearlessness and success with which he has arrested the blood in arteries, which it had hitherto been considered absolutely fatal to tie. From his great success in these novel and formidable operations, he has obtained more renown than from all his other most brilliant achievements in surgery. He it was that first demonstrated the possibility of tying the brachio-cephalic trunk, or arteria innominata, within three inches of the heart, for subclavian aneurism, with partial success, the patient dying twenty-six days after the operation from hemorrhage, so that it would appear that the operation was not the cause of death. This operation has since been twelve times performed, and in no case has death immediately succeeded the operation, although one of the patients died in two hours after it. In the case of Mr. Fearn, (Brasdor's operation) the patient appeared to be doing well, twenty-seven months after the first ligature, and then died, apparently from pleurisy. So confident is the veteran operator, Dr. Mott, of the ultimate success of this operation, that he recently wrote me upon this subject, and stated that he was not eager or ambitious to repeat it, but if another case presented itself to his notice, he should not shrink from the operation. In addition to applying a ligature to the innominata, he stated that he would also tie the common carotid above its bifurcation, if an opportunity presented. Dr. Mott was also

the first surgeon to apply a ligature upon the primitive iliac, within a few years, for aneurism of that artery. The patient is still living. The external and internal iliacs have since been frequently tied. Dr. Stevens, of the West Indies, tied the internal iliac in 1813, and Dr. S. P. White, of New-York, in 1827.

The operation of tying the carotid artery is now frequently resorted to. It had not been done prior to 1800. Medical journals were so uncommon at that time, that it was not known that it had ever been performed in Europe, and it was supposed by some that Dr. Coggswell, of Hartford, was the first to tie that artery with success, in Nov., 1803. The late Dr. Twitchell, of Kentucky, one of our most successful operators, was supposed by many to have tied this artery for a wound the first of any surgeon in the world. It had been performed several times before, but it was not generally promulgated. Both the carotids have been tied subsequently, with success, in the same subject, by Dr. Reuben D. Mussey, now of Cincinnati, for aneurism by anastomosis. Even the aorta itself has been ligated in the human body by Sir Astley Cooper, about the year 1828, in such a manner as to show that even that artery may be tied without destroying life.

But one of the boldest suggestions and applications of the present age, is the omission of ligatures in amputations, and of torsion of the arteries, instead of ligating them. I do not put them down as among the improvements of the present age, as I have strong doubts of the utility or safety of the practice. Ambrose Paré, that great surgical luminary, who lived in the 16th century, I believe, first introduced the use of the needle and ligature in surgical operations, and it was considered the greatest discovery of the age. Before his time, the only method of arresting hemorrhage from important bleeding arteries, after surgical operations and wounds, was by means of the application of red hot iron to sear the vessels. I have some of these searing instruments in one of my old cases.

The method of curing aneurisms upon the great arteries of the human body by means of compression, I consider to be one of the greatest improvements in our profession within the

last half century. I have not time to give a detailed history of it. It was introduced to the profession by Pelletan and Dubois, as early as the year 1810.

The value of auscultation, both mediate and immediate, by which the adept in the science is enabled to investigate and point out the various diseases of the internal organs with as much accuracy as with the naked eye, was first pointed out by Laennec, of France, about the year 1825. I say the adept in the science, for it is a deep and intricate one, and it requires a long course of laborious investigation, first, upon the healthy structure, to become familiar with the normal sounds of the human body, and then with the unhealthy, to become acquainted with diseased structures. But few possess the requisite share of patience and perseverance for these deep investigations, without which the science is of very little value, and will lead to wrong conclusions. This science is of great importance in many instances to enable us rightly and scientifically to apply our remedies, and it enables us to assure the patient and his friends, that in many instances there is no danger in the case. But alas! in many cases, especially when the lungs and heart are deeply diseased, no remedy has yet been discovered to restore them. That fell destroyer of the human race, pulmonary consumption, still reigns triumphant, and amid all the other grand discoveries in medicine, we must bow to the humiliating truth of the inefficacy of the healing art, even in arresting the progress of this direful scourge. We can see a cancerous ulceration on the surface of the body, but are we thereby any better able to cure such an ulceration?

It will be expected, undoubtedly, that I should not only mention, but that I should dwell somewhat at length upon what may be called *the* great discovery of the age, the use of anæsthetics in subduing pain in surgical operations, and in obstetrical processes. This is, indeed, one of the greatest discoveries in the world, and one, which of itself, ought to place our profession at the head of all others in point of utility. For what can be more gratifying than the fact, that we are possessed of the knowledge of an agent which has the power, not only of subduing pain, but even of inducing sleep during the most agonizing surgical operations, and the tortures of ob

stetries? Yet such is the fact; and although the pretended science of mesmerism or animal magnetism laid claim to the same by means of its superstitious charms and incantations, yet the great body of the public are now well persuaded, that all its miserable pretensions were the effects of collusion, which might easily be effected by the mountebank jugglery of Pot-ter, Signor Blitz and Harrison. Since the great ether discovery, the delusion of mesmerism and phreno-mesmerism as subduers of pain, is rarely, if ever, alluded to. So much has been said of the efficacy of this great ether and chloroform discovery as anæsthetics, in the periodical publications of the day, that you must all of you be as well acquainted with the subject as I am, and it would not be profitable for me to spend any more time upon the subject. Unfortunately, the use of chloroform has in some cases of surgical operations been attended with fatal results, though in hundreds of thousands of cases of midwifery, in which it has been employed, no fatal result has ever followed. The same may be said, even in surgical operations, of the use of sulphuric and chloric ether, which does away the objection to the use of anæsthetics. I shall not, at this time, undertake to canvass the mooted question of the authorship of this invaluable discovery.

I might dwell with great propriety and pleasure upon many other discoveries and improvements of our distinguished physicians during the last half century, but time will not allow of it. I should have been pleased to have spoken of the method of warding off consumption, by exercise in the open air, to the exclusion of all other remedial agents, recommended by the late Dr. Parish, of Philadelphia, and at an earlier period, of horseback exercise, recommended by Dr. Rush, in this complaint. Of the use of animal food in the bowel affections of infants, recommended by Dr. Stewart, of New-York, and of the comparative immunity from disease and death of infants, in the pure air of the country, while in some of our large cities almost one-half of the mortality is among infants, especially in the warm seasons.

We all of us appreciate the value of hospitals for the reception of the sick, the deaf and dumb, the blind, the insane, prison discipline and all sanitary and hygienic institutions. An

impulse has been given to all these benevolent asylums during the period in question, which far surpasses every thing which had hitherto been done from the creation of the world to the commencement of the nineteenth century. The fact, too, that scientific medical men, by their investigations, have put down, if not annihilated the empirical delusions of illiterate pretenders to the profession of medicine, under the form of Perkinism, mesmerism, homœopathy, hydropathy, phrenomesmerism, as exclusive systems of medicine, the Rochester rappings, and all their kindred delusions, is an honorable testimony of their determination to banish empiricism from the land. These systems are but the too easy resort of the indolent and ignorant, who are destitute of the persevering industry which is necessary to constitute a truly eminent physician and surgeon. I could dilate with great satisfaction upon this subject, but as I have already trespassed upon your time, I will close by giving my opinion of a few more of what I consider the great advancements, if not the improvements, of the present generation.

Naturæ Ducæ, nature for our guide, we place more dependence upon her powers in the cure of diseases, though we do not place exclusive reliance upon them. We give less medicine than formerly, but whenever we do give it, we administer it in as heroic doses as ever. We make much freer use of cold air, cold water and exercise, as I have already mentioned, in the treatment of fevers, and less use of violent and perturberating medicines. Less resort is had to depleting remedies, such as the lancet, emetics, &c., in fevers and inflammation. I recollect the time when every pain was considered an inflammation, and the lancet and emetics were uniformly resorted to for the cure of them. Within my recollection, bleeding has been in and out of fashion, at least half a dozen times, in the cure of all complaints supposed to be inflammatory, and all acute complaints were considered to be such. That little instrument, the lancet, has swept the earth as with a broom. It is now more temporarily used, and its services in highly acute inflammations are still considered to be invaluable; emetics, too, have had their day, and are not now nearly so often employed, except in cases of poisoning, as

formerly. Many diseases are now believed to be *self-limited* in their operation. Nature must be assisted in her work in the cure of them, and this assistance is more promptly given by mild internal practice, than in the more violent disturbing remedies. Many diseases which were once considered inflammatory in their nature, and treated as such, are now thought to proceed from morbid actions, or derangement of a low or debilitated character, and the treatment is correspondent. We now treat intermittent, and perhaps remittent fever, more exclusively with quinine than formerly, typhus by tonics and stimulants, and typhoid fever, more particularly, by mild nourishment and the use of cold water and cool air.

The splendid works of Willan, Bateman and Rayer, have pointed out a more accurate description and method of cure of those intricate complaints, the exanthemata, than had hitherto been known. Auscultation and the stethoscope have shown the distinctions between the various affections of the lungs, and the method of diagnosis. Nervous diseases which were formerly classified under the head of hysteria, &c., have been described and treated by the moderns with great success, though their protean forms still greatly embarrass the practitioner. Anemia, too, or that bloodless or exsanguinous appearance of the body, from the want of red corpuscles in the blood, has been considered by the moderns a distinct affection of the body, though it had hitherto been supposed merely a symptom of disease, though the use of ferruginous medicines had long been applied to them. The doctrine of the humoral pathology of Boerhaave, which had long since been considered to be exploded, appears to be now again to be rapidly reviving. Dr. Parish, of Philadelphia, one of our most eminent practitioners, speaking upon this subject, says, "the diseases of the blood and of the fluids generally, so greatly and justly regarded by the founders of the humoral pathology, seemed, until the past few years, to be lost sight of; they are now viewed with the new light thrown upon them by modern animal chemistry, to be of the utmost value and importance. As these inquiries in this direction are pushed, what a flood of light will come upon us with regard to many diseases, the nature of which are now involved in obscurity.

The doctrine of separate tissues in the human body, each having its own functions and diseases, introduced during the present century by Bichat, has also exercised no little influence on modern medicine."

No one can doubt the great importance of post mortem examinations, and their immense value in pathological anatomy. These subjects have had vastly more attention paid to them than in former times, and to them we may, in a great measure, impute many of the great discoveries of the age. I am far from entering into the hue and cry against calomel as a remedial agent. This I conceive to be more the resort of the quack than of regular physicians. I consider it a most invaluable agent in the cure of many diseases. The free use of it is now much out of vogue at the present day, and it is not now so much employed as formerly.

I have thus, gentlemen, just glanced at some of the great medical improvements and discoveries of the last half century, and I have only had space merely to glance at them. Each of the topics to which I have adverted, is sufficient to form a discourse or volume of itself. I have undoubtedly omitted some of the important discoveries, which many of you may think of equal if not greater importance than some which I have mentioned. I could not embody them all in the scope of one discourse. What I have mentioned are sufficient to show that the physicians of the present age have acted well their part in the scenes of human life, and have been the authors of the greatest and most important discoveries of any which have ever been recorded in the annals of science, not even excepting the discoveries of the steam-engine and the electric telegraph.

ART. II.—*Cases in Surgery. Rare forms of Dislocation.* By W. PARKER, M. D., Professor of Surgery in the College of Physicians and Surgeons, New-York. Reported by STEPHEN SMITH, M. D.

CASE I. *Dislocation of the Humerus on the Dorsum of the Scapula.*—Mary Dunn, aged 60 years, native of Ireland, was admitted into Bellevue Hospital May 9th, 1850, with typhoid

fever. While convalescing from fever, she called attention to her left shoulder, the bones of which were found to sustain an unnatural relation to each other. Upon interrogating the patient, it appears that one week before admission to the hospital, while assisting a neighbor to remove some pieces of furniture, she stumbled and fell forwards, striking her left elbow, arm and shoulder against the side of a bedstead. The break in the fall made her body perform part of a revolution, and she reached the floor with her face upward. On examining the shoulder, the head of the humerus could be distinctly felt resting on the dorsum of the scapula, in the infraspinatus fossa; there was also flattening beneath the acromion process; the forearm was carried across the chest, the elbow being thrown slightly outward, with pain in the shoulder and inability to motion.

On the 23d of May, Dr. Parker proceeded to reduce the dislocation, the patient having entirely recovered from her illness. Counter-extension was made by placing a folded sheet in the axilla and around the chest, and applying the force in a direction across the body and slightly upward. Extension was made by pulling the arm outward, downward and slightly forward. While extension and counter-extension were being thus made, Dr. P. pushed the head of the bone forward into its socket, making it at the same time describe a curve, with the concavity looking upward. But little force was required in the operation. The arm was retained in the usual position after the reduction of luxations of this bone, and she was discharged at the end of four weeks, her arm having recovered nearly its former usefulness.—(*Hospital Records.*)

CASE II. *Dislocation of the Humerus into Sub-Scapular Fossa.**—I was requested by Dr. Campbell, of Pittsfield, several years since, to see a patient of his who had suffered a dislocation of the right shoulder. He was a young man, aged about twenty, of good constitution and regular habits, and

* A brief history of this case is given by Dr. Reese, in his Appendix to Cooper's Surgical Dictionary, Art. Luxation.—S.

gave the following history of the accident: He was at the time employed in a woollen factory, and while engaged in his work about a large band-wheel in rapid motion, the right arm was caught between the wheel and band, and in the circuit of the former, the arm was violently twisted or rotated upon itself in the direction of pronation. When liberated from the wheel, the arm and forearm were lying in a position diagonally across the body from above downwards and forwards, strongly pronated and fixed in this state. In this condition Dr. C. first saw him, and was at once struck with the unique position of the affected limb; the rotundity of the shoulder was lost, and upon close examination the head of the bone could be detected beneath the scapula in the *sub-scapular fossa*. This diagnosis was confirmed by a careful appreciation of the action of the forces which produced the luxation: the violent rotation of the arm threw the head of the bone from its socket, causing the primary dislocation into the axilla, and the subsequent violence displaced it beneath the scapula. In the reduction, the arm was first carried outwardly at a right angle with the body, and extension being made, the luxation was changed to that into the axilla, and from this position the bone was easily carried into its proper situation. The patient soon recovered the use of his limb, and was able to resume his work.

CASE III. *Dislocation of the Head of the Radius backward.*—The following case of this rare form of dislocation was communicated to Prof. Parker by Dr. N. K. Freeman, of West Farms. I was called July 6th, 1850, to see Mr. R., an Englishman, aged 37 years, by occupation an embosser of books, who was seriously injured in jumping from the railroad cars while in rapid motion. His face was horribly disfigured by a lacerated wound of the nose and upper lip upon the left side, a fracture of the nasal bones, and severe contusions of the scalp, with tumefaction of the eyelids. But the most interesting feature in the case was the backward dislocation of the head of the radius of the right arm. The symptoms were marked; the hand and forearm were prone, and the attempt to place them in the supine position caused great

pain; while the head of the radius formed a considerable projection posterior to the external condyle of the humerus, where the cavity on its extremity could be distinctly felt.

Assisted by Dr. Walsh, of Fordham, who firmly grasped the humerus, I was enabled to reduce it by extending the forearm and flexing it upon the arm, at the same time pronating the hand and pressing forward the head of the radius with my thumb. After the reduction was effected, I requested Dr. Walsh to examine it; when upon slight extension being made upon the forearm with supination of the hand, the bone was again dislocated. I immediately reduced it in the same manner as before, and directed the patient to keep the forearm flexed and the hand prone, and laying it upon a pillow, apply cold water. He complained of severe pain for two days, which gradually subsided, and on the fourth day he was able to move and extend the forearm. The injuries of the face rapidly recovered, and he was soon able to be about.

CASE IV. *Dislocation of the upper extremity of the Radius outward.*—The following case was recently presented at the College Clinique, which may be considered a displacement of the head of the radius outward. The patient was a girl, aged four years, of fair constitution and general good health; six weeks previously she fell down a flight of stairs, backwardly, with the right arm twisted behind the back, in such position that the whole weight of her body came upon her arm. No treatment was resorted to, and after two weeks she recovered a partial use of her arm; the motions of the joint are now completely restored. The appearance of the limb is that of a fracture of the external condyle, the angle being outwardly instead of inwardly, as in the natural state of the arm; while by pressure over the head of the radius, it is felt to glide into its articular cavity, the "lesser sigmoid notch," but is immediately displaced upon flexion or extension of the forearm. No treatment was advised.

CASE V. *Dislocation of the Femur into the Perineum.*—The following case was reported to the *New-York Medical*

Gazette, in 1841, by Prof. Parker, in whose practice it occurred; and being an entirely new form of luxation of this bone, we have thought it worthy of a republication in this connection.

The patient, Mr. E——, aged about thirty-five, was a caulker by occupation, and the accident happened while he was at work under the bottom of a canal boat, July 20th, 1881. The boat was raised upon props three and a half feet long. He was standing, bent forward very much, and his feet far astride. Between his feet there was lying a piece of round timber, a foot in diameter. While at work in this position, the props gave way, the boat came down, killing one of the workmen, and forcing the patient down by the side of the timber over which he was standing, in such a manner that the left thigh was placed between it and the bottom of the boat; on being extricated from this situation, the left limb was found standing at a right angle with the trunk, the toes were turned a little inward, the natural form of the nates lost, and the head of the bone distinctly felt in rotations in the perineum behind the scrotum, and near the bulb of the urethra.

Reduction was effected without much difficulty in the following manner: the patient was placed upon a table, resting upon his back, and the pelvis confined by passing a strip of muslin around it. Extension was then made downward and outward, accompanied by moderate rotation, and in this way the head of the bone was made to surmount the ramus of the ischium, and to pass into the foramen thyroideum, changing the luxation from a perineal to a thyroideal one. From this position, the bone was replaced in the acetabulum, by carrying the luxated limb strongly across the sound one. The patient soon recovered the use of the joint.

CASE VI. *Fracture and Dislocation of Vertebrae. Reduction. Recovery.*—The following interesting case occurred in the practice of Dr. Graves, an eminent surgeon of New-Hampshire. A man, aged twenty-five years, of good habits and fair constitution, while engaged, Jan. 2d, with several others in clearing the snow and ice from the entrance of a rail-road engine house, the door, which run on trucks at the top, being

raised by one of the company, fell forwards upon the patient, striking him while in a stooping posture, violently across the shoulders. I saw him soon after the accident; he complained of no pain, but had some tenderness between the shoulders and of the contiguous parts. On examination, I discovered that his lower extremities were completely paralyzed, being deprived of both motion and sensation, as was shown by pinching and puncturing the skin, and by his ineffectual efforts to move them. There was a complete erection of the penis, which continued for several hours. At the seat of the injury, which was at the junction of the lumbar and dorsal vertebræ, there was a marked appearance of displacement of the parts; it seemed to be a fracture and dislocation, or at least a sliding of the body of one vertebra over another. What was to be done for the poor fellow thus suffering with a broken back and paralysis of half his body? Shall I abandon his case to its inevitable termination as our book surgeons direct, or shall I attempt to replace the parts in their natural position? The latter I resolved to do, if possible. In order to do this, I placed my patient across the bed, lying upon his face, and placing a folded sheet under his arm pits, and another around his hips, I directed four stout men to make extension and counter-extension by means of these sheets. I now put the patient under the influence of chloroform, and when anæsthesia was complete, the extending and counter-extending force was applied, and in a few minutes I was enabled to reduce the displaced vertebræ to nearly a line with the spine. Bony crepitation was distinctly felt when the parts glided upon each other. Patient was now placed in bed, and ordered to be kept perfectly quiet.

Jan. 3d. Patient had during the night but little pain; slept some; bowels slightly tumid; has passed no water or fæces; has considerable swelling and tenderness at the seat of injury, and complete paralysis of the lower extremities. Ordered cups to be applied to the part, followed by cold applications. 4th. had considerable fever during the night; pulse full and quick; tongue coated; skin dry; had passed no water. Drew off large quantity of urine; continue treatment. 5th. Found patient with high fever and constitutional disturbance; sickness

of stomach; vomiting; complained of severe pain at the seat of the injury. Cupped him freely over the spine, and ordered continuance of cold lotions; drew off urine, and gave ol. ricini; used frictions and external warmth to extremities. 6th. Has less fever; slept some during night; less pain in back; no vomiting or sickness of stomach; no passage from bowels or bladder. 7th. Feels comfortable; slept well during night; ordered an enema of warm water to evacuate bowels; used catheter. 8th. Slept well during night; complains of shooting pains between shoulders; bowels were freely opened; used catheter, and applied cups to spine. 16th. Patient continues without much improvement; total paralysis of lower extremities and bladder continues; urine passes stillicidium.

This case continued about the same as at last record, until the sixteenth day, when he began to have slight sensation in the feet; cupping was continued from time to time, and stimulating liniments rubbed upon the limbs. Strychnine was resorted to at a later day, but without any apparent good effect; galvanism seemed to act favorably in restoring sensation and motion; it was continued six or eight weeks, during which time he gradually recovered the use of his limbs, and at the end of this period, the passage of urine became voluntary, as also the evacuation of the bowels. Patient soon after left the place and went into the country. I did not see him until several months after, when I was surprised by his walking into my office with only the aid of a cane. He informed me, that during his absence, he had continued the use of the battery with marked benefit; there still continued to be a prominence at the seat of the injury.

Remarks.—Dislocation of the humerus on the dorsum of the scapula, the backward or outward luxation of most writers, although placed among the varieties of dislocation of this bone, from the earliest times has been doubted by many to exist. Bichat, in his edition of *Desault's Treatise on Fractures and Dislocations*, while he receives this form of accident as admitted into surgical treatises, holds the following doubtful language in regard to it: "In a luxation outward the elbow is carried forward towards the opposite shoulder;

the capsule being stretched outwardly, gives way in that part, provided the humerus be acted on by a sufficient power. But what can this power be? In a fall, the arm being pushed against the trunk and stopped by it, cannot carry its motion to a sufficient extent to produce a laceration of the capsule. Hence a luxation outward must be extremely rare. Indeed, no instance of it is to be found in books of surgery. Desault, in particular, never witnessed it. Besides, when in a fall, the arm, separated from the body, is carried backward or forward, the weight of the body acts obliquely on it, and it is but partially subjected to the action of the latissimus dorsi, the pectoralis major, and the teres major." It is astonishing that so distinguished an anatomist as Sir C. Bell should deny positively the possibility of this accident. He says, "no force can be applied in a direction to dislocate the humerus and push its head behind the scapula, for this *very evident reason*, that the chest prevents the necessary position of the humerus."* But however it may be regarded theoretically, this variety of luxation has now been met with so frequently as to have its diagnostic features and the mode of reduction well settled. Sir Astley Cooper saw two cases; and in his work on *Fractures and Dislocations*, brief histories of these and seven other cases are given. Marx found three examples among the manuscript notes of Dupuytren, Arnolt, Best, Levacher, Lepelletier, Berard, Boyer, Fizeau, Sedillot, Velpeau, Desclaux, Fergusson, Kirkbridge, S. Cooper, and in our own country, Drs. Physick, of Philadelphia, and Snider, of Tennessee, have met with single cases.†

In regard to the *causes* which have produced this accident, the efficiency of which was doubted by Bichat and denied by Bell, we will mention several in illustration. In the case which gives rise to these remarks, the patient fell forwards, striking her elbow, arm and shoulder so fairly upon the external aspect as to cause a partial revolution of her body to the opposite side, and she fell upon her back instead of upon

* *Operative Surgery*, vol. ii.

† *Leçons Orales de Clinique Chirurgicale*. Par M. Velpeau. Tom. i. p. 277. Paris, 1840. DORSEY'S *Surgery*, 3d ed. vol. i. p. 243. GIBSON'S *Surgery*, 8th ed. vol. i. p. 323.

her face. In case 238, of Sir A. Cooper's work on *Fractures and Dislocations*, (Ed. Op. Cit.,) a man "had his right shoulder dislocated through pushing a person violently with the arm elevated:" case 230; "a stout man, in a fracas, fell down upon his shoulder with some violence," producing this accident: case 232 "was the effect of *muscular spasm* solely," in a paroxysm of epilepsy. Dupuytren* expressed the opinion that there was a predisposing cause in these cases, in the shape of the glenoid cavity, namely, its having an inclination backward, and being considerably elongated in that direction; and Boyer seems to have confirmed it in the dissection of a subject. In a marginal note in his *Surgery* he says: "We have seen, in a subject, a singular inclination of the glenoid cavity backward. It extended, also, to a great length in that direction, so that the humerus could easily be carried into the fossa sub-spinalis."† In this case the backward dislocation could be easily reproduced. Sir A. Cooper had an opportunity to examine a shoulder-joint post mortem, in which this form of luxation had existed seven years, and was marked by the same facility of reproduction when reduced as in Boyer's case. Instead, however, of "une disposition vicieuse de la cavité glénoïde," he found the tendon of the sub-scapularis and the capsular ligament had been torn from the smaller tubercle of the head of the os humeri, and the bone was consequently drawn back by the action of the infra-spinatus and teres minor muscles, and there was no support given to the head of the bone when returned into its cavity; but so soon as it was replaced, it was drawn back by the action of the two posterior muscles, and all the appearances of dislocation were reproduced. Although the shape of the glenoid cavity may occasionally predispose to this accident, it is not probable that it is a general condition, for "in the usual dislocation backwards, or on the dorsum scapulæ, the bone, when reduced to its proper situation, remains there, and only requires a roller and rest for a few hours, to prevent the future escape of the bone from the glenoid cavity."—COOPER.

* *Leçons Orales de Clinique Chirurgicale*, tom. i. p. 74. PAR BARON DUPUYTREN.

† *Boyer's Surgery*. Trans. by A. H. STEVENS, M. D., 1816, vol. ii. p. 256.

A late writer on operative surgery thus explains "the comparative frequency of the displacement into the axilla, and the infrequency of that on the dorsum scapulæ. The explanation is found in the natural position of the arm with regard to the chest and the general economy of the body. In a fall forwards, both arms are brought into requisition, and therefore the occurrence of injury is less probable; whereas, a side fall involves one arm only, the other being uselessly placed at the opposite side of the trunk. If this reasoning be correct, no fall but that in an oblique direction forwards, in which possibly the opposite extremity may be paralyzed, or engaged in some very important duty, such as carrying an object of value, could become the cause of that primary form of dislocation, of which the secondary effect would be a displacement backwards on the dorsum scapulæ."—SKEE.

"The *diagnostic* marks of this injury," says B. Cooper, "are loss of motion of the affected limb, the direction of the arm forwards and inwards, and a slight degree of pronation of the whole of the affected extremity; the natural roundness of the shoulder may be described rather as being altered than lost, as the flattening occurs only anterior to the acromion, where the skin is drawn into puckers or folds. On raising the arm to a right angle with the side, and tracing the long axis of the humerus, the eye is carried in a direction behind the glenoid cavity; and if the patient be thin, the head of the bone may be felt upon the dorsum of the scapula, on the fossa infra-spinata, between the bone, the teres minor, and the infra-spinatus muscles."* The position of the arm "forwards and inwards" is by no means constant: it may hang vertically by the side, the elbow being closely applied to the body, or thrown a little outward; or it may be placed horizontally upon the chest, the forearm being flexed, and the hand resting upon the head. This difference depends upon the extent to which the head of the bone is displaced from its socket.

Reduction was easily effected in the above case, by the means usually adopted in dislocations at this joint, namely, by extension and counter-extension. Sir A. Cooper, however,

* *Surgical Essays, &c.* By BRAMHBY COOPER: p. 206. London, 1842.

accomplished this object by simply "raising the hand and arm perpendicularly, and by turning the hand backwards behind the head;" a manipulation of the limb similar to that lately resorted to in an analogous dislocation of the lower extremity.

Dislocation of the head of the humerus into the sub-scapular fossa, an example of which we here report, is a form of luxation of this bone, unnoticed by authors, and of which we are acquainted with no recorded case. This accident must be of extremely infrequent occurrence, owing to the peculiar character of the forces necessary to its production. The diagnosis in this case was not difficult; the arm and forearm were lying diagonally across the chest, the rotundity of the shoulder was lost, and the head of the bone could be recognised under the scapula. The reduction was first made into the axilla, by extension and counter-extension, and from this position the head of the bone was easily carried into its socket.

The comparative frequency of the displacement of the superior extremity of the radius, forwards or backwards, is judged of by writers according to their personal experience. Boyer was of the opinion, that it could only be luxated backward, (*Op. Cit.*;) and many authors, as Chelius, South, Guthrie, Gibson, &c., agree that is the more frequent dislocation. On the contrary, Sir A. Cooper believed the forward dislocation the most common accident, having met with six examples of it, to but one in the opposite direction; Fergusson, Liston, Syme, Druitt and Skey coincide in his experience. In regard to the luxation backward, which we must consider the rarer form of accident, Boyer remarks, "this luxation is most frequent among children, because, in them, the ligaments and tendons of the extensor muscles are weaker, and the sigmoid cavity of the ulna is more superficial. It is always complete. The annular ligament is ruptured when the accident takes place directly from external violence; in some cases, however, the ligaments are merely stretched. In several instances, this luxation has been occasioned by a fall upon the hand, unexpectedly caught in a state of extreme pronation; but it is most generally caused by external violence, tending strongly to pronate the hand; hence it occurs frequently in children

who are lifted by the hand over a stream, or into the arms of another person; and also, when they are taken by the hand in play. In these circumstances, the hand being generally pronated very suddenly, the luxation is either immediately produced; or by repetition of this improper practice, the ligaments which connect the upper end of the radius with the humerus, become so much relaxed as to suffer the bone to be displaced." (*Op. Cit.*)

The diagnosis of this accident would not seem to be difficult when the examination is early, and even with considerable tumefaction; the fixed pronated condition of the forearm would lead to strong presumption of the nature of the difficulty. In this case, besides this sign, the head of the radius in its false position, and the cup-shaped depression on its extremity, could be readily detected. Prof. Langenbeck,* in the report of two cases of this injury which occurred to him in a single winter, the only cases of dislocation of the radius in any direction he has ever met with, says, "the peculiar form of the radial side of the forearm, without displacement of the ulna, chiefly indicated the nature of the mischief. At the origin of the supinator radii longus, and of the extensor muscles from the external condyle, and of the upper portion of the radius, there was a marked prominence; the form was somewhat similar to what we meet with in rickety persons, in whom the radius is generally bent. The hand was prone, and could not be brought into a state of supination; the forearm was moderately bent, in which position it was fixed, for the arm admitted of neither flexion or extension. On the inner side of the internal condyle, the skin was lax, and presented a depression, in which the internal articulatory surface of the humerus could be felt. On tracing the radius from below, upwards, the finger came against the external condyle, behind which, in the adult, the articular circumference of the head of this radius could be felt, and next to it the olecranon. On placing the fingers on the radius in this spot, and moving the bone as far as it admitted, the motion was also communicated to the finger. Behind and below the external condyle in the

* *London Lancet*, N. S. vol. i. p. 248.

child, the glenoid cavity of the head of the radius could be felt." Of the treatment adopted by Dr. Freeman we have nothing further to remark, than to recommend it as that best adapted to meet the indications of the case. Reduction is not generally found to be difficult, but cases have occurred in which the patient was obliged to live with this form of dislocation; in such instances the arm, though limited in its movements, becomes very serviceable.

Such a case has occurred to Prof. Parker, the subject of which was a medical gentleman. The accident occurred when a child, and the motions of the arm had gradually become quite free; flexion, however, being limited to about a right angle.

The cause of the deformity in the case of displacement of the head of the radius outwardly, is doubtless the result of the non-union of the orbicular ligaments, and the tendency of the muscular attachments to draw the head of the radius from the ulna. The following case, (*Cooper on Dislocations and Fractures*, case 272,) bears some relation to it: "Mr. Adams, of Dublin, in one of the articles on dislocation which he has contributed to Dr. Todd's valuable *Cyclopædia of Anatomy*, gives the case of a young gentleman, whose left radius became gradually dislocated, by the action of the flexor muscles upon the external condyle, where a new socket was formed for it, from which new socket, however, it was occasionally dislocated farther outwards. This displacement was the consequence of a violent blow, which had rendered the limb weak and wasted."

The only example of the luxation of the femur in perineo to which we can refer, in addition to the one here recorded, was reported to the *St. Louis Medical and Surgical Journal*, July, 1850, by Prof. Charles A. Pepe, of the St. Louis University. It is the following:—"J. B., an Irishman, aged forty, on entering the St. Louis Hospital, gave the following account of his accident, which had occurred six hours previously: He was engaged in excavating earth, and, having undermined a considerable bank, it unexpectedly fell upon his back, catching him in a bent position, with his legs stretched widely asunder. The weight crushed him to the earth,

simultaneously fracturing both bones of his right leg, the lower extremity of the radius of the same side, and also dislocating the left hip. On examination, the fractures were readily recognised, and my attention was at once directed to the peculiar position of the left thigh. This was thrown quite at a right angle to the body, and somewhat forward. The normal site of the great trochanter offered a cavity in which the fist could easily be placed, while the head of the bone was both seen and felt below the skin, and raising the raphi of the perineum. On rotation, which was difficult, and caused intense suffering, the movements of the *caput femoris* were distinctly visible. There was experienced by the patient an inability of voiding urine, which was, doubtless, produced by the pressure of the head of the bone upon the urethra, and the difficulty continuing after reduction, relief was afforded only by use of the catheter. This trouble soon subsided. The fractures having been attended to, and the patient put under the full effect of chloroform, two loops were applied, interlocking each other in the groin, and using the leg as a lever, extension, by means of the pulleys, was made transversely to the axis of the body. A steady force was kept up for a short time, and the thigh bone glided into its socket with a snap that was heard by every attendant and patient in the large ward, where, for the convenience of the pillars, the operation was performed. The patient, on recovering from the influence of the anæsthetic, seemed much delighted, and said that he had felt no pain whatever." Dr. Pope continues: "It might be supposed that there may have been, in these instances, some error, and that the displacement of the head was merely into the foramen ovale, and not into the perineum. I feel confident, however, that both (referring to a verbal report of Dr. Parker's case) were really dislocations, as reported. The various medical gentlemen who examined the case with me, all coincided in my opinion. The direction of the displacing force in these two varieties of luxation is precisely the same, and but little greater violence would be required to throw the head on, past the foramen ovale, and branches of the ischium and pubis, into the perineum. In the cases cited, there was the same position of the body, and

of the outstretched legs, and the attendant causes and circumstances were just such as would most likely favor the production of such an accident. Had the head of the femur, in the case of J. B., been situated in the foramen ovale, it could not have been so plainly seen and felt, covered, as it would have been, by the thickness of the interposed muscular attachments. Besides, the exaggerated position of the thigh, and the direct pressure of the head of the bone on the urethra, causing a retention of urine, are, to my mind, conclusive evidence of the nature of the case; for although, in the latter instance, some irritation might be propagated from the head, displaced in the foramen ovale, yet it would scarcely be so great as to cause retention of urine to the extent observed in the case above related."

The possibility of a dislocation of one vertebra from another, without fracture, was long disputed by surgeons. Abernethy, in his usually positive manner, denies it. Sir Astley Cooper never witnessed the separation of one vertebra from another, through the intervertebral substance, without fracture of the articular processes; or, if those processes remain unbroken, without a fracture through the bodies of the vertebræ." It is now, however, settled beyond a doubt, by the examples of Desault, Chopart, Rust, Schuh and others, that such accidents may occur in the cervical region. But in the dorsal and lumbar regions, where a different anatomical character of the oblique processes obtains the displacement of the bodies of vertebræ without fracture, seems physically impossible; and yet Mr. Brodie* declares, that Mr. Lawrence has proved the possibility of even this form of injury. The case above related is plainly one of fracture, with displacement, which is an accident of occasional, but not frequent occurrence; but its chief interest consists in the mode of treatment, which was adopted with so much success.

The practice of the ancients in luxations of the vertebræ, was to make extension and counter-extension with some local manipulations to adjust the displaced bones. Hippocrates seems to have established this practice, and succeeding wri-

* *Medico-Chirurg. Trans.* vol. xx.

ters adopted it without scarcely an improvement or suggestion. His plan was the following: a board, in length and breadth such as to contain the man, or a bench equal to it, is to be placed near a wall, being extended along the wall, and not more than a foot distant from it, and some robes are to be spread over it to prevent the body from being injured. Then the man, being bathed, is to be laid on his face along the board or bench, and a thong is to be twice passed round his breast by the arm pits along the back; and the extremities of the thong are to be fastened to a pestle, like a piece of wood, erected on the floor at the extremity of the board or bench, and this to be given to a person standing behind the patient's head to hold, so that when the lower parts are secured oppositely, and the upper pulled towards the head, extension may be made at the proper time. Then another thong being bound round both the feet above the ankles, and again another above the loins, so that its two ends may meet upon the haunch bones, the extremities of these thongs are to be again united together, and bound to another pestle-like piece of wood resembling that already described; and this pestle, like the former, is to be erected near the extremity of the board or bench at his feet, and then we are to order the assistants to make counter-extension by these pieces of wood. While the extension is thus made, we press down the prominence of the back with the palms of the hand, and if necessary, we may sit upon it without apprehension.* In the time of Ambrose Paré, reduction of these dislocations by extension was still considered indispensable to the safety of the patient, and there is figured in his great work, the surgeon and his assistants in the act of restoring "the spine outwardly dislocated," by extension and counter-extension.† But modern writers very generally condemn any attempts at reduction by extension, merely directing to keep the patient quiet in the horizontal position, and meet whatever indications may arise. "To attempt," says South, "to set a fracture through the body of a vertebræ, accompanied, as it almost invariably is,

* HIPPOCRATES' *Works*, *Art. Articulations*. (*Sydenham Soc. Ed.*)

† *The Works of AMBROSE PARÉ*, p. 354. London, 1691.

with displacement, and most commonly with fracture of the vertebral arch, or articular process, is, as Chelius remarks, most highly dangerous, and ought never to be attempted.”* But when we consider the inevitable fate that awaits the patient if unrelieved, the slight change of parts often required to relieve the spinal cord of the pressure exercised upon it, and especially the success that has frequently attended these efforts at reduction, we must conclude that carefully executed attempts to adjust the fractured and displaced vertebræ by extension and manipulations, afford the sufferer the fairest chance of recovery.

A case somewhat similar to that above is related in Schmu-cher’s surgical works. A soldier received a violent blow on the back from the falling of a wall. When extricated he was deprived of sense, and breathed with extreme difficulty. On examination it was discovered that the last dorsal vertebra was luxated on the first lumbar, and had passed three fingers’ breadth beyond its edges; this derangement was situated to the right and backwards. The patient was put to bed and laid on his belly, and extension kept up by means of assistants. The surgeon was able, with great difficulty, to reduce the bones, which were again displaced as soon as the extension was relinquished. Four assistants were directed to keep up the extension for several hours, while a fifth retained the bones in their position by compression with his hand. A compress, moistened with spirits, was also applied to the seat of injury, and upon this placed a weight of fifty pounds. On the following day the weight was removed, and a tight bandage substituted, and bleeding resorted to. The patient remained extended on his belly for the space of a fortnight, with the superior part of his chest raised higher than the pelvis, with the intention that the bodies of the vertebræ should be brought into more exact apposition. On the twentieth day he was able to lie upon his back, and at the end of the fourth week his back was sufficiently strong to allow him to sit up; and at the end of six weeks his strength

* SOUTH’S CHELIUS, vol. i. p. 569.

was sufficiently established to pursue his trade, that of a mason.*

In support of this practice we have the opinion of Mr. Brodie.† "There can, however," he says, "be no doubt that when the injury is in the lower part of the spine, the attempt to effect reduction may be not only made with impunity, but that it may be successful." In proof of this he refers to the case of a man admitted into St. George's Hospital, who had met with an injury several months before, in consequence of a mass of chalk having fallen upon him while working in a chalk pit. The surgeon found the first lumbar projecting over the last dorsal vertebra. With some difficulty he reduced the displaced vertebra to its natural position, the reduction taking place with a jerk or snap. He, however, did not regain the use of his lower extremities to any extent, and was obliged to resort to the catheter to relieve the bladder, (p. 148.) In another instance "there was a fracture with great displacement of the third and fourth lumbar vertebræ. When the patient had recovered from the state of collapse which had followed the first shock of the accident, I endeavored, by fixing the thorax and cautiously extending the pelvis, to restore the vertebræ to their proper places. The attempt was in some degree successful, and no ill effect of any kind resulted from it," (p. 150.) An interesting case in point is reported by Mr. Crowfoot.‡ A man, aged 42, coachman, was caught in a covered gateway and bent completely double. His lower extremities were found paralyzed, and on examination of the back there was discovered a great deformity about the ninth, tenth, eleventh and twelfth dorsal vertebræ, occasioned by an increased posterior curvature; the spinous processes of the ninth and tenth vertebræ were divided from each other considerably beyond their usual distance, the body of the ninth vertebra having been forced forwards, whilst that of the tenth projected backwards. The abdomen be-

* *Parisian Chirurgical Journal*. By M. DEBAULT. Trans. by R. GOSLINA, Esq. London, 1794, vol. ii. p. 316.

† *Medico-Chirurg. Trans.* vol. xx. p. 150.

‡ *Provincial Med. and Surg. Jour.* Oct. 7th, 1846.

came almost immediately distended; the ability to empty the bladder was lost, and there was a total deprivation of the power of voluntary motion and of sensation in the lower extremities. The diagnosis was clear, and the prognosis fatal. "Unwilling, however, to leave the poor fellow without making some effort to relieve him, we determined to try the effect of cautious extension, and I applied it in the following manner: After the bowels had been emptied by an enema, and the bladder by a catheter, a broad and well padded belt was passed around the chest and under the arms, and it was fixed from behind to a strong staple at the upper end of the frame of the bed; another equally broad and well padded belt was buckled round the body just above the pelvis; this latter belt had two very strong straps attached to it, one before, the other behind, each having a strong iron ring at its extremity; these straps were brought between the thighs, care having been taken to avoid pressure on the penis and scrotum, and made fast to the pulleys. A gradual but considerable extension was now kept up, whilst some slight attempts were made by the pressure of the fingers to aid the replacement of the bones. The deformity of the spine was evidently diminished by the extension, whilst the pressure on the posterior tractus of the spinal cord was so far relieved as to permit an almost immediate restoration of a certain degree of sensibility in the parts below the injury, where it had been entirely lost, but there was not the slightest return of voluntary motion." This patient gradually convalesced, and in a twelvemonth was able to resume his business; with the exception of pain in the loins, and some degree of numbness of the extremities after severe exercise, he enjoyed perfect health. In commenting upon the treatment resorted to in this case, Mr. Crowfoot remarks, that all the ancients, from Hippocrates to Ambrose Paré, recommend extension in the treatment of fractures of the spine, while every writer of the present time deprecates its employment as dangerous. In the course of his practice he had three or four cases of fractured spine, and in these cases he had done precisely what he had seen done by others; he had endeavored to foretell, according to the situation of the fracture, what length of time the person would

live, and that was all. From want of success he had at length determined to employ the mode of practice recommended by the ancients. In the case in which it was tried the man was completely paralyzed both to sensibility and voluntary motion, and during the extension sensibility was so far restored, that on pinching the man he felt it in parts of the limb. After three weeks the power of motion began to be restored, and gradually and steadily returned, and the patient recovered completely, except that a partial deformity of the spine remained. "We call especial attention," continues the editor, "to this case, because in our own practice we have met with four or five cases of fatal injury to the vertebræ, where the accident occurred chiefly to laborers in good health, in the prime of life; where the individuals presented no symptoms on being received into the hospital wards excepting paralysis; where every surgeon who saw the cases pronounced them hopeless, and where it was not deemed prudent to make any effort at relief; and because, from the examination in more than one of these instances, it has occurred to us that a mechanical adjustment of the injured or displaced vertebræ might be sometimes effected in such cases, and a chance of recovery thereby obtained."*

ART. III.—*Remarks on Tumors, with cases.* By JAMES BRYAN, M. D., Professor of Surgery in Geneva Medical College, N. Y., and of the Institutes of Medicine in the Philadelphia College of Medicine.

"A tumor, (says Mr. Liston,) is a swelling of new production, and not a part of the original composition of the body." "Tumors, (he adds,) may be divided into solid and encysted." He then proceeds to speak of simple, adipose, fibrous, encephaloid, melanoid, carcinomatous tumors, and fungus hæmatodes, together with painful tubercle, polypus and tumors of bones, viz., osteo-sarcoma and spina ventosa.

Dr. Miller divides tumors in, 1. Tumors of soft parts; and 2. Tumors of bones. 1 solid, 2 encysted. Solid tumors he

* *Ranking's Half-Yearly Abstract*, No. iv., 1846, p. 227.

vides into, 1, simple; 2, malignant. Simple tumors are divided into, 1, simple sarcoma; 2, adipose; 3, fibrous; 4, cartilaginous; 5, calcareous; 6, osseous; 7, cysti-sarcoma. Malignant into, 1, simple, but connected with a general vice-*tubercular*; 2, malignant; *a*, medullary; *b*, carcinoma; *c*, melanosis; *d*, fungus hæmatodes.

Tumors are worthy of our attention, not only on account of their nature and size, but because on account of the part or parts pressed upon by them, as well as the organs or tissues which may be involved in their structure. The orbit of the eye, the interior of the skull, the neck, the chest, the abdomen, the pelvis, or other so called cavities of the body, may be more or less occupied with tumors, and the contained organs pressed upon by them or their functions, impeded. In the same way, tumors external to the four cavities of the body may involve important organs in their growth.

The causes of tumors may be, not only blows and contusions of all kinds, producing a congestion of the parts, under the law so well stated by Haller, viz., "*ubi irritatio ibi fluxus*," but constitutional diathesis, as scrofula, cancer, rheumatism, gout, &c., together with syphilis. Peculiar kinds of diet or habits may be causes of various descriptions of tumors. We have seen a tumor involving the whole structure of the left eye, (staphyloma,) which had been produced by a slight accidental blow from the little finger of a friend. We have seen an osteo-sarcoma which required eighteen years to destroy the patient, by pressure on the brain, induced by a kick from a horse, on the left side of the os-frontis. A patient carried twelve encysted tumors on different parts of his body, shoulders and arms, which had appeared without known cause. Ovarian and uterine tumors grow and fill the pelvis and abdomen, from slight blows, child bearing, or without any known cause. A patient in Geneva, N. Y., had two rows of large scrofulous tumors on her neck, pressing on each side of the larynx and trachea, and finally perished from the pressure on the air passages. This young lady was but eighteen years old, and remarkably beautiful. Malignant disease will sometimes seat itself in the gums and jaws, after the extraction of one or more teeth. The neck is frequently the seat of

simple and malignant tumors, which are dangerous to life on account of their proximity to the larynx and trachea. We have seen a fungus hæmatodes sprout out of the left parotid region, and in four weeks measure five inches in diameter, which opened into the pharynx, and destroyed the life of a young man of temperate habits, only twenty-one years of age.

The important question as to the value of surgical interference in tumors generally, and especially malignant tumors, has yet to be decided. I operated on a carcinomatous tumor of the left mamma of an unmarried lady, aged 35 years, in June, 1848. She died about eight months afterwards from extension of the disease to neighboring parts. I extirpated a large cauliflower excrescence from the os-tinæ, in August, 1842, and the patient died in the month of February following, the uterus, broad ligaments, and peritoneum having become involved in the disease. This female was about 35 years of age, a mulatto, and had borne children. One of the cases reported below will *probably* live eight months or a year after the operation. The prospect previous to the operation was, that death would supervene in a few weeks. In these and other cases which might be mentioned, wherein operations have been resorted to in malignant disease, there appears to be two things gained, first, present relief from pain and irritation; second, a prolongation of life, which does not extend over years, but is restricted to months. The osteo-sarcoma of the os-frontis above mentioned, had been operated upon twice with the effect of prolonging life about eight months. It is of course important that the nature of a tumor should be well understood before adopting any therapeutic means. The fact that sometimes true carcinoma remains dormant for months and years, should be remembered in these cases. The fact that tumors not previously suspected of being malignant, have suddenly developed themselves, after injudicious irritation or partial excision, should always be remembered. The exploring needle of Professor Kün, of Strasburgh, may perhaps be resorted to with advantage in doubtful cases. "It consists in an exploring needle, having at its extremity a small depression, with cutting edges. On plunging this instrument into a tumor to any depth, we can

extract a minute portion of the tissue of which its various layers are composed. In this manner a microscopic examination of the tumor can be practised on a living subject, and its nature ascertained before having recourse to an operation." (*Monthly Journal of Medical Science* for May, 1847,) as quoted by Dr. Wythes. But we are unhappily not much enlightened, at least much less than was anticipated by our microscopical examination of heterologous growths of the human system. Walshe and Hodgkin have perhaps accomplished as much as can be done in this respect.

CASE I.—Mr. G. was a stout athletic farmer, of 35 years of age, married, and accustomed to hard labor. He first discovered a small tumor on his neck about eighteen years since.

It had exhibited itself in the sub-maxillary region, inside of the sterno-mastoid muscle. This had, however, gradually grown, and latterly more rapidly, to its present size, which was that of a large goose egg, or perhaps larger, and very hard, but not painful; quite moveable, and apparently having no important attachment. An incision was made in the long diameter of the tumor, the platycœna myoides divided, together with the local cellular tissue and several small veins, and the tumor was easily exposed, encased in a tight cyst or cap. On puncturing it, it was found to be fibrous and somewhat encephaloid. It was easily turned out with the handle of the scalpel, and with its case. In the process, the lingual artery and vein were exposed in the upper part of the wound, the anterior belly of the digastric muscle, several sub-mental and sub-lingual glands, and the posterior edge of the omo-hyoid with anterior border of the sterno-mastoid muscles. The facial artery and vein were avoided, as well as the anterior jugular. The wound was considerable, but did not bleed much. The man bore the operation well, but cried a little about his wife



and little children when he saw the blood running down over his clothes. In half an hour the bleeding had ceased; the wound was soon after dressed, two sutures were introduced, and the patient kept his bed until the next day, when he left Geneva for his home, some nine miles out in the country. Three weeks afterwards, and before I left Geneva, I saw his employer, who told me he was well and at his work. This has been the case I believe ever since. He did not take chloroform.

The second case was that of Charles Dorsy, a mulatto man of about 38 years, married, with two children, wife dead; had had intermittent fever four years ago, after which this tumor began to grow in the right sub-maxillary and parotid regions. It soon became painful, and during the last two years, the darting pains through the tumor and head and face had become intense. He had, from a stout athletic man, become thin and emaciated. The head was thrown over to the left side, and was habitually supported by the left hand. The appetite began to be affected, and anodynes were necessary in order to procure any satisfactory sleep. The tumor extended back to the transverse processes of the cervical vertebra, and down nearly to the clavicle; forward against the larynx and trachea, pushing them somewhat towards the left side; and upwards to the parotid region, and somewhat over the margin of the base of the jaw. The whole tumor had a hard, knotty feeling, but did not appear to have any very close bony attachments. The patient resolved, at the suggestion of some officious medical adviser, not to take chloroform or ether; and, in fact, bore the operation, which lasted more than an hour, with stoic firmness and almost indifference.

He was placed upon the ordinary operating table of the lecturing theatre, on his left side, with his head and shoulders moderately elevated. Having found that my friend, Dr. Campbell, of Lima, N. Y., could control the hemorrhage, during the operation, by pressure upon the root of the common carotid, I proceeded to operate, first taking up that vessel, which otherwise appears to be the safest plan.

An incision was made from above the lobe of the ear, down nearly to the clavicle, and another from near the back of the

neck to the middle of the chin, directly across the first, producing a quadrangular area, with four flaps, each of which was turned up to its fullest extent before the tumor could be exposed. The upper corner of the tumor dipped down behind the angle of the jaw, producing, by its pressure, the absorption of a portion of the parotid gland. A part of this gland was taken up with the tumor. The lingual artery and vein were exposed. The facial artery and vein were taken up and excised; and the external carotid, which passed directly through the tumor, was taken up both below and above. The external jugular vein also ran through the tumor, and was twice tied and cut off. The posterior portion of the tumor was pretty firmly attached to the transverse processes of the cervical vertebra, by a hard, fibrous or cartilaginous connection. The sterno-mastoid and omo-hyoid muscles were reduced to mere ribbons, and were so interwoven with the external surface of the tumor, that it had to be excised, both below and above. The anterior portion of the tumor was somewhat connected with the right lobe of the thyroid gland. A careful dissection was necessary, to separate it from this gland and the numerous vessels in the vicinity. The inferior thyroidal artery was exposed, but not injured. By this time the tumor was more or less isolated from all the parts, except that immediately under it. Not daring to use the edge of the knife, through the blood which surrounded its base on all sides, I introduced my fingers, and tore it from its connection with the common carotid and jugular, for the space of three inches. After cutting some fibres of undivided cellular tissue, the whole mass was removed, leaving a hole quite large enough to bury my fist in, and too large to be covered by the integuments which had been divided by the two external incisions.

The patient did not complain during the operation, except during the traction necessary to separate the tumor from the carotid and neighboring parts, but remained perfectly still, without motion or a groan. He was then placed abed, with his head elevated, and the wound dressed about two hours afterwards.

The flaps were brought together as nearly as possible, and

adhesive straps, with a few intercepted sections, used to **retain** the flaps in their places. Two pupils for each four hours were detailed from the class, and the patient, for several days, **was** thus watched and attended to. The danger feared was the external carotid which had been ligated, but no hemorrhage occurred, and the wound healed, in a great degree, by the first intention; the patient sleeping, from the beginning, without anodynes; the pains of the tumor seemed all to have left with the operation.

Five months have passed since the above operation was performed, and the patient has been, until within the last few weeks, quite comfortable. Now I find, for he has come on to Philadelphia to see me, that the neighboring parts, such as the cheek, the parotid gland, the side of the neck, and the chain of cervical glands running down the neck, are all taking on that knotted, sore and painful condition which the tumor itself exhibited before the operation; and I have little



doubt but my patient will die before many months shall have passed away. The effect of the operation has been, as in that of cancer of the breast, cauliflower excrescence of the uterus, and other similar cases, to ease pain for the time, and prolong life some eight or ten months.

The microscopical appearances of these tumors were those of bands and fibres, granules amorphous, cheesy matter, and semi-irregular vesicles.

I was assisted in the operation by Prof. C. A. Lee, of the Geneva College, Drs. J. Smith and G. W. Field, of Geneva, and Dr. Campbell, of Lima, N. Y.

ART. IV.—*Removal of an Ovarian Tumor by the large abdominal section; death from Peritonitis.* By W. H. VAN BUREN, M. D., Surgeon to Bellevue Hospital, &c., &c.*

MORE than two years ago I had the honor of exhibiting to the Society an ovarian tumor of considerable size, which had been removed successfully from an unmarried female, who is still living in this city in the enjoyment of excellent health. The specimen at present before the Society was removed by a similar operation, but its removal was followed by a different result. As facts of this nature are not liable to misinterpretation and are always of deep interest, I feel it a duty to lay before the Society the details of this case as fully as those of the former one, in order that they may attain publicity through the same channel.

A married lady, 45 years of age, of active habits, spare build and good constitution, had been annoyed by an enlargement of her abdomen for seven years, during which time it had gradually increased to the size attained by most women at the seventh month of pregnancy. She had borne four children, and thought herself larger, and felt as if she carried more weight than with any of them. Her last childbirth dated five years before the commencement of the abdominal enlargement. This began whilst she was in the enjoyment of apparently excellent health, by the occurrence of a sudden and severe pain in the lower part of the belly, on the left side, about the position occupied by the left ovary; the pain at this point, which was of a sore, aching character, led to the discovery of a hard moveable mass as large as an egg, apparently in the cavity of the abdomen. In a few days the pain disappeared spontaneously, but the newly discovered tumor continued to increase steadily in size, thenceforward without the slightest pain, until the present time. She consulted several physicians, and was told she had an ovarian tumor; but few remedies were employed, and these exercised no apparent influence upon its growth. She continued in good health, suffering only inconvenience from the tumor, for five years, and menstruated regularly. At the end of this

* From the Minutes of the N. Y. Pathological Society, Jan. 14th, 1852.

time a slight but continuous bloody discharge commenced from the vagina, and thenceforward no *periodical* increase of the discharge was recognised. By this change she was induced again to consult a surgeon of eminence, who advised a mercurial course, and the wearing of a tight bandage around the abdomen. The only results which followed this treatment were a slight diminution in the abdominal projection, and a gradual protrusion from the vulva, which was subsequently found to consist of the upper wall of the vagina, and posterior wall of the bladder. This new feature in her case gave rise to much inconvenience and pain; excoriation was caused by the contact of the urine with the protrusion, and it prevented her from taking active exercise; added to which there was now a manifest deterioration in her general health. Up to this period she was sensible of a great degree of mobility in the tumor, and was able almost to turn it over and over on itself.

The increasing uneasiness and constant hemorrhage during the following two years was accompanied by a progressive increase of debility, and at the end of this time she had fully made up her mind to undergo the removal of the tumor, if such an operation were possible, and for this purpose arrived in New-York on the 31st of October, 1851, having travelled more than two thousand miles. On the day after her arrival she consulted me, and I obtained the history of her case as already stated. She was fully conscious of her situation, possessed evidently an excellent morale, and a firm, quiet and decided character. She did not conceal her mature determination to get rid of her disease by any means that might be considered justifiable, as it rendered her life more than burdensome, and evidently threatened to put an end to it at no distant period.

On examination, I found the abdomen occupied by a tumor about the size of the uterus between the seventh and eighth month of pregnancy, and possessing a very considerable degree of mobility. It was evidently not of a fibrous hardness, but gave a sensation at most points of deep and obscure fluctuation; at one spot this fluctuation was quite evident. The cavity of the abdomen contained also a sensible, though tri-

fling amount of fluid, showing that peritoneal effusion had already commenced.

The tumor was evidently deeply received into the cavity of the pelvis; a finger in the rectum recognised this fact, and also the sensation of deep fluctuation in correspondence with the other hand placed upon the abdomen. By this manoeuvre it was also attempted to lift the tumor out of the pelvis, but without much success; the impression being left by this mode of examination that adhesions might possibly exist connecting the tumor with the pelvis.

By two fingers in the vagina the protrusion of the bladder with its upper wall was recognised, as well as the mobility of the uterus separately from the tumor, which was made out satisfactorily, although with difficulty, as also its natural size, situation and weight. It was not found necessary to employ the uterine sound. I recognised, also, distinctly as I thought, ulceration around the greater part of the os-uteri, and accounted thereby for the hemorrhage from which she had so long suffered. Under the head of adhesions, I find it mentioned in the notes taken at the time of this first examination, that "the intestines maintained a suspicious proximity to the tumor in the right hypochondrium, especially when it is pushed well towards the opposite side."

As to her general condition at this time, she presented no evidences of disease, beyond what has been described, except a constantly too frequent pulse, and a slightly yellowish tint of skin; these were both considered as consequences of the habitual loss of blood, and she was advised to use 12 drops of the syrup of the iodide of iron, an hour after each meal, as a remedy called for in any event. Her appetite was habitually good, and the bowels had always acted well. She was thin, but not emaciated, and of firm fibre. After several careful examinations, I was reluctantly forced to the conclusion that my patient's case was not one in which the propriety of an operation could be properly decided against, and having communicated this opinion to her, I advised a consultation with Dr. Mott. After a thorough examination of the case, in which the difficulty of determining the existence and extent of pelvic adhesions was recognised as the only decidedly un-

favorable feature in view of an operation, it was determined that an exploratory incision should be made on the linea alba, large enough to admit the hand, and that in this manner the extent of the adhesions should be ascertained. If the tumor should be found generally adherent to the pelvis, the operation was to be at once relinquished ; if otherwise, its removal was to be effected.

Dr. Mott considered her, on the whole, as a good subject for an operation, and that her general condition was favorable to its success.

When the result of the consultation was made known to our patient, she expressed the most undisguised satisfaction, and from this time forward I had some difficulty in reconciling her to the delay which it was thought advisable to insist upon, in order that she might be placed in a condition most favorable to the success of the operation.

The use of the iodide of iron was persisted in, as it had already diminished the vaginal discharge, as well as the frequency of the pulse.

I took occasion at this time to reiterate to her, and also to her friends, in strong terms, the extreme danger to which she would be subjected by the operation, in the most favorable view of her case. Her answer was always the same ; that she was "fully prepared for any event." During our whole intercourse I maintained towards her a tone of extreme reluctance and regret, which indeed, I truly felt ; that she had imposed upon me a task of such painful responsibility ; but, being convinced that the course determined on was right and justifiable, I was not disposed to shrink from carrying it out.

At my request, my friend, Dr. T. F. Cock, was now added to the consultation. After a full investigation of the case, he coincided in the course which had been agreed upon. He made a physical examination of the heart and lungs, and found no evidences of disease of those organs, with the exception of an anæmic murmur accompanying the first sound of the heart.

On the 12th of November, every thing being in readiness, and the patient's condition having evidently improved, the operation was performed. Her pulse was now but 84, and there was no perceptible vaginal discharge.

Chloroform was administered, in an adjoining room, by Dr. Cock, and the temperature of the apartment was duly considered. I was also assisted by Drs. Mott, Herriot, Isaacs, J. R. Wood and A. B. Mott. A male silver catheter was introduced into the urethra, and, as anticipated, the bladder was found to be almost entirely without the vulva, and containing a trifling amount of urine. An incision, about five inches in length, was made through the linea alba, extending from the umbilicus downwards, and the hand introduced through it into the peritoneal cavity, and well downwards into the pelvis; the surface of the tumor was felt everywhere round and smooth, and free from all connections, with the exception of an apparently slight attachment of the intestines, above and to the right, which had been previously expected, and the left, broad ligament, the pedicle by which it was attached to the uterus. Dr. Mott having also introduced his hand, recognised the same condition of parts; and it was immediately determined to proceed to the removal of the tumor. The abdominal incision was prolonged upwards, about four inches farther, when it was found that the bulk of the tumor could escape through it. This it did entirely, bringing with it a portion of the intestines, of which the mesentery was found to be adherent, over a space of about three square inches, to the upper part of the tumor, on its right side. These adhesions were dissected from the tumor, as closely as possible to its surface, and the bleeding vessels, which were unusually numerous, committed to the charge of Dr. Wood, who temporarily commanded them by pressure. On examining the pedicle of the tumor, which consisted of the broad ligament of the uterus, with its contained vessels, and the Fallopian tube, we were struck by the size of several enormous veins, as large as an ordinary finger, converging from the surface of the tumor towards the pedicle. My design was now to tie the entire pedicle, which was about three inches in width, by the application of several successive ligatures, close to the tumor, and then to remove it. In drawing the first ligature tight, the coats of one of these enlarged veins, which were unnaturally thin, gave way, and a considerable gush of venous blood followed; the size of the tu-

mor, the management of which required both hands of one of my assistants, together with the shortness of the pedicle, which was almost concealed by the mass, rendered it impossible, without some little delay, to control the hemorrhage, and cut through its attachments; and during this time the exposure of the intestines, and the loss of blood, which was estimated, in all, at about 3xij., gave rise to a considerable amount of prostration. The oozing from the mesenteric attachment was, also, somewhat obstinate, and required the use of six ligatures before it was entirely controlled; these were of the finest silk, and their ends were both cut off close to the knot. The wound was then brought together by means of large "insect pins," and the twisted suture, with intermediate strips of adhesive plaster, accurately applied. A compress and bandage completed the dressing.

The patient's pulse, at this time, was about 120, and very feeble, and the surface cool. The influence of the chloroform had been allowed to subside, and there was a good deal of pain complained of, which seemed to be caused principally by the strangulation of the broad ligament.

She was placed comfortably in bed, and ten drops of Magendie's solution of morphine, administered in 3ij. of brandy. This amount of morphine and brandy was repeated every half hour, until half past three o'clock, P. M., when she became tranquil, with a pulse of 82, and small, but reaction had evidently commenced. She still complained much of thirst, and beef tea was given in small quantities, with ice. At 7 o'clock, P. M., reaction was entirely established; the pulse was 94, and fuller, and the surface warm; very slight complaint of pain. The beef tea exciting disgust, toast water was substituted for it.

At half past ten in the evening of the day of the operation, the pulse had risen to 100, and was fair in quality; the patient is disposed to dose; has no pain; thirst continues; she suffers much occasionally, from eructation of wind, with which the stomach is distended. The abdomen is resonant throughout, and there is some serous oozing from the lower angle of the wound. Her skin is warm and natural, and the pupil not materially affected by the morphine.

The eructation or gulping of wind became somewhat annoying, and for its relief a small quantity of Hoffman's anodyne was given several times during the night; and after its use vomiting took place, for the first time since the operation. The morphine was repeated at 11, 2½ and 5 o'clock, the pulse continuing to increase in frequency, with considerable anxiety, but no positive pain.

At 10 o'clock, on the morning of the 13th, her condition was as follows: pulse, 130, small and weak; respiration thoracic, 38 in the minute; decubitus dorsal, legs drawn up voluntarily; extremities rather cool; expression of countenance unpromising; increased anxiety; occasional but slight restlessness; no pain; sense of increased debility. Eructation of wind continues troublesome; tympanitic distension of abdomen increased; complains of pain on pressure at its lower part. She passed water without assistance twice during the night, and has no return of the vomiting.

Equal parts of brandy and strong beef tea were directed in the quantity of 3j. each hour, with 10 drops of sol. morphine every third hour, with artificial heat to the extremities. Ice internally.

At 3½ P. M., pulse more frequent and feeble; constant thirst; greater prostration. Stimulus increased as much as possible, morphine being discontinued.

7 P. M. Still sinking; occasional delirium. Continue stimulus.

Death took place at 2 o'clock on the morning of the 14th, 39 hours after the operation.

At 11 o'clock of the same day, 8 hours after death, an examination of the body was made by Dr. Isaacs.

The abdomen was very much distended with gas, in consequence of which the edges of the wound had been forced apart at one or two points; elsewhere adhesive union was evidently progressing. On removing the points of suture and enlarging the wound, tolerably firm fibrinous adhesions were found to exist uniformly between the parietes of the abdomen and the distended intestines, and also between their folds. The surface of the peritoneum presented very slight traces of vascularity. At the point where the ligatures had

been applied to the broad ligament of the uterus, pus was found deposited to the amount of two or three drachms, surrounded by adhesions. About half a pint of serum, slightly tinged with blood, was found in the cavity of the pelvis. There were no coagula discovered.

The uterus was removed. The mucous membrane around the os presented traces of vascular congestion, and was rough from the presence of enlarged glandulæ Nabothi, but there was no ulceration detected. On laying open its cavity a minute polypous growth of soft consistence was found adhering by a slender pedicle to its fundus. The organ was otherwise healthy.

The remaining viscera in the cavity of the abdomen, as far as examined, exhibited no further evidences of disease.

In regard to the cause of death, which was evidently an intense and overwhelming peritonitis, I can only regret that the prostration of the vital powers consequent upon the operation did not permit a trial of a more liberal use of opium as a remedy.

It will be noticed that the hemorrhage to which the patient had been subject was attributed to the presence of a polypus in the cavity of the uterus, and not to ulceration of its cervix, as supposed.

The weight of the tumor removed is about eight pounds; it is composed entirely of the left ovary. The nature of the disease I have not yet taken means to determine; from the elastic and semi-fluctuating feel which the tumor presents, as well as from the appearance and microscopical character of certain portions of its substance examined by Dr. Isaacs, I should judge it to be not benign. You notice that its inferior portion has the general shape of the cavity of the true pelvis, into which it was so firmly pressed during life, but that it is everywhere smooth, and presents no marks of adhesions.

[The tumor was afterwards laid open by Dr. Markoe, and presented a magnificent specimen of encephaloid cancer, or true fungus hæmatodes.]

ART. V.—*The Surgical treatment of Epilepsy, with statistical tables, comprising all the recorded cases of Ligature of the Carotid Artery: and also of Trephining the Cranium by American Surgeons.* By STEPHEN SMITH, M. D., late Assistant Surgeon to Bellevue Hospital.

There is no disease, the treatment of which is more justly obnoxious to the charge of empiricism than epilepsy. In proof of this, we have but to consider the multitude of remedies which have at various periods been vaunted, either as specifics or as efficient in the cure of this disease, and the character of that class of practitioners who have in every age claimed the greatest success in its treatment. These remedies have always comprised a large share of the known materia medica of any given period, while the specifics have varied according to the theories which have prevailed in each succeeding generation, or the conceits of the mountebanks, priests or charlatans who have assumed the office of physician. Hennen, who published his *Analesta Literaria Epilepsiam Spectantia*, in 1798, devotes one hundred and fifty quarto pages to the remedies for epilepsy, and the last half century has added not a little to this list. "The Saltpêtrière," remarks Esquirol, "contains upwards of 400 epileptic patients, and I have employed, but unsuccessfully, all the boasted remedies for that disease." It is not strange that amid the uncertainties of this infinitude of medicinal agents, the means which the art of surgery affords to meet some of the indications of this disease, early attracted the attention of writers on this subject. And it is with reference to the surgical treatment of epilepsy, and more especially the operations of trephining and ligature of the carotids which have from time to time been resorted to, that we propose to make some observations in connection with the tables appended to this article.

Setons, Issues, Cauterizations, Moxas.—The *seton* and *issue* have been recommended by nearly every writer on this disease. They are generally directed to be inserted in the nucha, but the insides of the thighs and arms have often been found preferable situations. Hippocrates, however, cured a case by an issue on the crown of the head; and Tulpius re-

records a similar instance. It is still practised by many physicians. Lusitanus (*Prax. Admir. l. i. obs. 22*) advises their application to the seat of the aura, and this course is approved by Rochard and Locher. An interesting case of this kind is published by Dr. Isaac Parish.* The patient, aged 20, received an injury to his head, which was followed by convulsions. These fits continued to recur for more than a year, when Dr. P. made an issue on the seat of the injury, which was tender to the touch; a discharge was kept up for seven weeks, during which he had no return of pain or convulsions. He was seen at the end of three years, and was then enjoying good health. The *actual cantery* applied to the nape of the neck, the occiput and even the vertex, is recommended by Aretæus, Celsus and other early writers. Piso asserts that he cured an epileptic person of 40 years of age, by applying a cautery near the coronal suture; and Kempfer says, that in Asia, the same was frequently tried with very good success. Willis, Van Swieten, De Hæn and others, have reported favorable results from its employment. M. Andral advises its application to the extremities in preference to the nucha or occiput. Dr. Fievee has published in the *Gaz. des Hôpitaux*, (1841,) some cases of epilepsy cured by severe cauterization with caustic potash. In an epileptic of fifteen years standing, he made nineteen deep and long cauterizations on the neck, on each side of the cervical and dorsal vertebrae, in series of four each time, and at intervals of six weeks; the patient remained free from the disease at the end of three years. *Moxas* have in a measure superseded the cantery, and have received the sanction of many of the most experienced writers, such as Esquirol and Larrey; the former directs their application along the cervix and spine, from the belief that the disease is often located in the medulla oblongata and spinal cord; and the latter employs them after local depletion of the vessels of the head.

The principles of treatment by these forms of counter-irritation was doubtless suggested by the observation that epileptics are often relieved by the occurrence of ulcers or suppurative discharges on some parts of the body, and frequently

* *Phil. Med. Examiner*, 1848, p. 14.

entirely cured by accidental burns. Some interesting cases illustrative of this have been reported. Van Swieten relates the case of a "French nobleman, who, being troubled with an epilepsy, took a journey into Italy in order to consult the most skillful physicians there; but being plundered by robbers on the road, and very much wounded, he was left for dead; besides other wounds, he had received a very large one in his forehead, which carried off a great part of the bone. After a long time he was cured of this wound, and at the same time was freed from his epilepsy."* A case is reported by Dr. Marshall where a girl, eleven years old, who had been subject to epilepsy for two years, fell into the fire and burnt her left arm from the elbow to the extremities of her fingers. She lost considerable blood from the ulceration of an artery, but the wound healed after free suppuration, and she recovered not only from her disease, but regained her intellectual faculties, which had become much impaired.† Dr. Green recorded a somewhat similar case, in which the epileptic attacks were suspended by a burn on the sole of the foot.‡ A still more remarkable instance is related by Dr. Bona, in *Hufeland's Jour.*, 1827. A man, 41 years of age, had been subject to epilepsy for thirty years; the original cause unknown. Being left alone in a room with a fire, he was seized with a fit and fell under the grate, severely burning his left thigh. Upon the healing of this sore, which suppurated freely, he remained entirely free from attacks of epilepsy.

Operations on the Scalp.—*Scarifications* of the scalp, particularly of the occiput, are advised by Celsus, and have been often practised; as a means of local depletion and counter-irritation they are frequently serviceable. Sir Everard Home§ was accustomed to make deep incisions of the scalp in certain cases of epilepsy, in which there was a painful and tender spot at some particular point; after dividing the integuments and pericranium freely down to the bone, he dressed the wound with lint and allowed it to heal slowly with sup-

* VAN SWIETEN'S *Commentaries*, vol. x. p. 425.

† *Med. and Phil. Register*, vol. iii. p. 358.

‡ *West. Jour. Med. and Phys. Sci.*, vol. iii. p. 209.

§ *Trans. Soc. for Imp. of Med. and Surg. Knowledge*, vol. iii.

puration. He most frequently found the pericranium morbidly sensible, and considerably thickened, and in some of the cases indurated and approaching to the structure of cartilage. The success of this treatment was variable. Tissot pursued a similar mode of treatment. Pouteau and Gervais relate cases cured by this practice. Akin to this form of treatment was that introduced by Dr. Wallis, of making *long incisions* of the scalp; many cases are reported of its success, but it has not been very frequently resorted to. Dr. Blackmore has more recently practised deep incisions, as approved by Home, but without limiting himself exclusively to those instances where the scalp is tender. "I would submit," he says, "that it should not be restricted to such a condition, and that it might be extensively employed as a most efficient means of local depletion."*

In a peculiar and severe case of epilepsy, induced by an injury to the head, Prof. Hamilton, of Buffalo, performed the following operation: "The operation consisted in nearly circumscribing each of the cicatrices, separately, by a circular incision extending to the bone, and then dissecting it up clean from the cranium, leaving the circular flap thus elevated, attached only at one point, of about an inch in breadth, through which it might continue to derive its support. My object was twofold; first, to cut off, as completely as possible, the nervous communication between these cicatrices and the general system; and second, to afford me an opportunity to trephine if the skull should be found to be depressed. There was, however, no evidence that the skull had ever been injured; I therefore completed the operation by simply replacing the flaps. He was immediately and for a short time relieved of nearly all the unpleasant symptoms from which he had so long suffered."† In a letter to Dr. H., dated about three months after the operation, this patient reports himself "greatly benefited; indeed, I do not hesitate to say that I am permanently cured." But we have since learned that upon the completion of the healing process, and the re-cicatrization of

* *Lond. Med. Gaz.*, March, 1845, p. 728.

† *Buff. Med. Jour. and Rev.*, vol. v. p. 480.

the wound, the disease returned in, if possible, a more aggravated form. Dr. McClellan, in a somewhat similar case, dissected out the cicatrix, which was formed over the principal branch of the frontal nerve, and the disease never recurred.*

Tracheotomy.—This operation was first suggested by Marshall Hall, who considered, that as an attack of epileptic or other convulsions implied closure of the larynx, with expiratory efforts, the attack of convulsive epilepsy would be prevented by tracheotomy. This operation has been performed by Mr. Cane, under the following circumstances:—"A boatman, aged twenty-four, who had become subject to violent fits of epilepsy, one of which had just occurred in so extreme a form as to leave him in a state of deep apoplectic coma and asphyxia, inspiration being performed only by seldom and short catches, whilst the veins of the head and neck were everywhere visible and greatly distended. This state had continued nineteen hours. Feeling convinced, observed Mr. Cane, that the patient must shortly expire, and that the root of the evil was in the closure of the larynx, I at once proceeded to open the trachea, a matter of no small difficulty, on account of the twisted state of the neck, the engorged state of the vessels, and the constant action of the muscles. The operation of tracheotomy was performed; and the tracheal tube is kept in the trachea to the present time. The relief to the patient was immediate; the air passed into the lungs, the state of spasm subsided with the turgid condition of the head and neck, and the patient soon recovered his sensibility. This was not the only gratifying result, although the poor man had experienced his epileptic seizures in increasing violence during seven or eight years, and recently thrice a week; he had, on April 1st, during two months, had no return of them."† This man was heard from still later, and was free from epileptic seizures.

Amputation.—Amputation of the extremity, which is the seat of the aura, has also been practised. Tissot relates an instance in which he removed a toe; a case where the finger

* *EBERLE'S Practice.* Edited by GEO. MCCLELLAN, M. D., vol. ii. p. 63.

† *London Lancet*, July 12, 1861

was amputated, but without any decided relief, came under our own observation. Frank records a case in which the testicle, the seat of the aura epileptic, was extirpated.

Operations on the Nerves.—The *division* of a principal nerve, leading from the seat of the epileptic aura, has long been practised; but its importance, as a curative procedure, is variously considered by writers. The principle of treatment in these cases is, that the trunk of the nerve is diseased, either from injury or some other cause, and its division destroys the medium of communication between the affected part and the great nervous centres. There is no doubt that in many cases this operation is indicated, and the complete success which has often attended its performance entitles it to consideration; but the cases in which it is applicable require careful discrimination. Van Swieten relates the curious case of a female, 38 years of age, who had been twelve years subject to epilepsy. "The paroxysm always began in the leg, about the lower part of the gastrocnemii muscles, immediately it flew up to her head, and then she fell down violently convulsed and foaming at the mouth." A physician who was present during the time of a paroxysm compared the leg affected with the other, and although he could see no difference between them, boldly thrust in a scalpel to the depth of about two inches, and in the bottom of the wound found a hard, cartilaginous body, resting upon the nerve. Upon removing this the patient recovered from her fit, and was restored to her former vigor of body and mind. Portal mentions the case of a woman who was cured of epilepsy by the removal of a tumor which had formed on the nerves of the thumb. The slightest pressure upon it had given pain and frequently brought on epileptic convulsions. The following is the history of a case in which Sir Astley Cooper *excised* a portion of the nerve. The man had received a severe blow on his thumb, after which he had the following symptoms, which had lasted for several months: "Uneasiness in the parts; pain extending up the arm in the course of the radial nerve; also to that side of the neck, accompanied by a rotatory motion of the arm inwards; occasional loss of sense and volition, so as to occasion him to fall, but without any strug-

gle; he remained insensible for a few minutes and then recovered, excepting that the attack left some pain in his head. As the man had recourse ineffectually to a great variety of internal remedies and to electricity, I recommended him to submit to the division of the nerve; and making an incision upon the outer side of the radius, opposite to the insertion of the supinator radii longus, I laid bare the nerve, and putting a director under it, I removed a portion, which measured after its removal five-eighths of an inch.* This man recovered. Aston Key excised an inch of the ulnar nerve, in a case in which the aura began on the inside of the arm above the elbow, but without effecting a cure. Dr. Holston, of Ohio, removed a portion of necrosed bone, that by irritating the nerves in the popliteal region caused epileptic convulsions, and they ceased entirely. In another case, where the fits began with cramps of the three outer fingers, he divided the ulnar and median nerves, but the operation gave no relief. In reference to this operation, Swan thus concludes: "Seldom, therefore, is the operation now practised, except when it is dependent upon an injury, or when a nerve has become implicated in a tumor. Cases do now and then occur in which relief has been thus obtained, but it has not often been either perfect or of long duration; and the part the nerve supplied has, from the want of nervous influence, become exposed to injuries from slight causes, and even to mortification. Notwithstanding all these discouragements the operation should be performed when no other disease is present, and a trial of the usual remedies has failed of giving relief."†

Operations on the Arteries.—Based upon the theory "that the immediate cause of the paroxysm of epilepsy is a disturbed and excited state of vascular action in the brain, alteration of structure where it exists, acting as a predisposing cause only, and giving the tendency to a recurrence of the paroxysm from time to time, according as any exciting cause

* *Prin. and Prac. of Surg.* By SIR A. COOPER. Edited by A. LEE, M. D., vol. i. p. 471. Lond. 1836.

† *Diseases and Injuries of the Nerves.* By F. SWAN. London, 1834.

happens to be applied, or when any occasional increase of irritability on the vessels of the part takes place,"* are the various operations which have been performed upon the arteries which supply the cranial region. The first of these which we notice, is contained in the report made to the *Academy of Medicine, Paris*, by M. Rouchoux, upon a paper drawn up by M. Pereira, on the treatment of epilepsy by l'arteritome epicraniuse. It consists of obliterating by *sub-cutaneous incision* at their origin, the different arterial branches from which the ramifications spread upon the pericranium in numerous capillary vessels, and establish anastomoses with those of the brain, after having traversed the cranium and its membranes. The obliteration prevents the blood not only from arriving at the encephalon in sufficient quantity to cause *congestion*, but produces a kind of atrophy which renders the return of the fits impossible. This theory appeared to M. Rouchoux inadmissible; he did not think that congestion determined to the encephalon is necessary for the production of epilepsy, nor did he think the remedy could be employed to prevent the development of the collateral arteries and their anastomosis.† The following is the history of a case of epilepsy in which Velpeau *ligatured* the temporal and facial arteries.‡ A man, 36 years of age, who had been affected with epilepsy seven years, was admitted into La Charité. The attacks had occurred eight or ten times in a month, but daily for the last three months. On the third day after admission, Velpeau tied the two temporal arteries; on the same day patient had a slight fit, but on the succeeding day was tranquil. Several days after this surgeon tied the two facial arteries, having previously compressed them for a time. The patient passed from under observation in about two weeks after the last operation, having had but one fit in the interval. The result of this operation is unknown, but it was probably unsuccessful.

The most considerable operation that has yet been performed on the arteries for the cure of this affection is *ligature of the carotids*. It had long been known that pressure upon

* Clutterbuck, in *Lond. Lancet*, vol. xii. p. 355.† *Psychological Journal*.‡ *Bulletin General de Therapeutique*, 1842.

these large arterial trunks has the effect both to prevent an expected paroxysm and to arrest it during its continuance. This course has been recommended by Parry, Bland, Malapert, Earle and others; and although the permanent obstruction of the carotids by ligature was advised by Earle, this operation seems to have been quite original with those who first performed it. Hitherto the credit of being the first to ligature the carotid for epilepsy has been ascribed to Mr. Preston, Assistant Surgeon in the Madras Service, East India, whose cases are reported in the *Trans. of the Med. and Phys. Soc. of Calcutta*. But by reference to the statistics of this operation, contained in the table which follows, it will be seen, on comparison of dates, that this gentleman was anticipated in the performance of this operation, nearly *four years*, by an American surgeon. Previous, however, to this, the operation had been twice performed upon epileptic persons, but without regard to the condition of the patient. The first was by Boileau, who tied the carotid on an epileptic who had attempted suicide. The result is stated in the report to have been successful in relieving him of convulsions; but Velpeau, in speaking of the nature of the diseases for which the carotid has been ligated, remarks: "The patient operated upon by M. Boileau, and who was epileptic, continued nevertheless to have paroxysms after the obliteration of the vessel."* Dr. McClellan, of Philadelphia, tied the carotid in a case where a vascular tumor, following an injury to the head, seemed to be the cause of the epilepsy. This case promised to be successful at the time of the report; but in a note made some time subsequently, the epileptic attacks are stated to have returned at the end of six months, but less violently than previously. In a note to *Eberle's Practice*, by the editor, Dr. McClellan, it is stated that "Dr. McGill, of Hagerstown, is said to have performed this operation repeatedly, and in one case upon both the common carotids at two successive operations on the same subject. Whether his success was permanent, or merely temporary, I have had no opportunity of ascertaining."† It has also been

* MOTT'S VELPEAU, vol. ii. p. 246.

† EBERLE'S *Prac. (Op. cit.)* vol. ii. p. 63.

performed by Dr. Parker, in a case in which he had already failed in the use of the trephine, but without affording more than temporary relief, the fits returning at the end of six months. Dr. Morrogh, of New Brunswick, New Jersey, we learn has ligatured the carotid for the cure of epilepsy, but with what success we do not know.

From the following table we learn the result of seven cases in which this operation was performed, and in but two instances did it prove successful. In three cases both arteries were tied, in one with an interval of a month, with no relief whatever; the second, an interval of three months, no relief; the third, with an interval of seven months and complete success. Of the five patients selected for this operation all were males, their ages varying from 18 to 51 years; three were stout and plethoric, two spare in their make; the successful cases being from each class. Causes unknown; therefore all were idiopathic. The duration of disease varied from five to nine years.

In regard to this operation as a measure which ought generally or even occasionally to be adopted, the facts here exhibited seem to disprove. It has, however, the sanction of distinguished names—Earle and Trousseau. The latter gentleman, who has often resorted to compression of the carotids in severe cases of convulsions, expresses the most decided opinion in favor of the ligature. "I would not be rash enough," he remarks, "to advise the ligature of the carotid in an epileptic patient whose life was threatened; but if I were afflicted with this horrible disease I would certainly demand the operation for myself. When a surgeon is applauded for applying a ligature around the carotid for the purpose of curing a tumor of the orbit, he should not be accused of rashness if he were to employ the same operation for the cure of epilepsy." The actual results of the operation, however, do not sustain the confidence here expressed for it. There may be cases, resisting all treatment, in which cerebral determination appearing to be the proximate cause, and impending idiocy the sure consequence, which would justify the ligature of the carotid as a last resort; but whoever appreciates the magnitude of the operation, and its often disastrous effects, will be

slow even then to adopt it. Velpeau continues in the note above cited, "here was a fact ascertained (the failure of Boileau's case) which should have deterred Mr. Preston from unnecessarily exposing the life of an epileptic in whom he

Ser.	Age.	Condition.	Cause.	Symptoms.	Duration.	Date of Operation.
1. M.	36		Subsidence of a skin disease.	Had pain in the head from infancy; had first epileptic attack 8 years since. In attempting suicide, cut the thyroid artery.	8 years.	July, 1822.
2. M.	16		Thrown from a horse, striking right side of head.	Soon after epileptic attacks ensued: 12 months since left side became paralyzed: a hard, painful tumor appeared above right ear: a vascular fungus.	3 years.	May, 1826.
3. M.	22	Robust. Very intemperate.	Unknown.	Fits occur only during sleep: has them every night.	9 years.	Mar. 1827.
4. M.	25	Robust. Intemperate.	Exposure of head to sun.	Has had fits once a fortnight for five years; often induced by intemperance.	5 years.	Feb. 1831.
5. M.	51	Short and stout.	Unknown.	Has six or seven fits per month. Has headache. Has lost the use of half his body, and power of vision.	6 years.	Aug. & Nov. 1831.
6. M.		Tall, thin & nervous: very intemperate.			8 years.	
7. M.	18	Sanguine temperament.	Unknown.	Subject to epilepsy from childhood. Fits became more frequent at 12 years of age. Disposition irritable.		Aug. 1838, & Mar. 1839.

Trephining.—The earliest author who has noticed trephining the cranium in epilepsy, and the circumstances in which it may be performed, is Aretæus. Cælius Aurelianus speaks of its having been performed, but does not approve of it. The operation has been alluded to by most subsequent writers on this subject, and uniformly recommended in those cases where the disease depends upon an injury to the head

vainly attempted to effect a cure by ligature of the carotid. The failure of Mr. Liston, also, shows how irrational it was to place a ligature upon the carotid for the purpose of relieving a simple neuralgia.*

Operation.	Result.	Remarks.	Authorities.
Tied carotid to stop hemorrhage.	Had no more convulsions.	Attributes the result, 1st, to the hemorrhage. 2d, the resistance to the passage of blood to the head. 3d, to the low diet enforced.	M. BOILEAU, <i>Jour. Univ. des Scien. Med.</i> 1825.
Tied right carotid below bifurcation.	Tumor began to diminish. In 2 weeks was about, free from pain, and paralysis diminishing.	Relieved for six months; when fits returned, but with diminished violence.	DR. McCLELLAN, <i>Amer. Med. Rev. and Jour.</i> vol. iii. 328.
Tied common carotid, as directed by C. Bell.	Had but two fits during next ten days; began to drink, and fits returned.		DR. BECTON, <i>North Am. Med. and Surg. Journ.</i> July, 1827, p. 88.
Tied carotid near larynx: face became livid.	Had no fits for two months, and resumed his business.	Drinking no longer affected his head. Seen at the end of a year.	MR. PRESTON, <i>Trans. Med. & Phys. Soc., Calcutta</i> , vol. v. p. 259.
Tied right carotid first; then left.	2d day could move both arm and leg. 18th. Had return of fits, and paralysis.	Nov. 14th. Tied left carotid. Improved, but still subject to fits. Relief after first operation marked. Thinks there was organic lesion of brain.	IDEM. <i>Op. Cit.</i> vol. vi. p. 396.
Tied both arteries; interval a month.	No relief to convulsions.	Had always suffered pain and heaviness of head, which were slightly relieved.	IDEM. <i>Op. Cit.</i> vol. vi. p. 409.
Tied right common carotid; 6 months after, the left.	Sensible relief after first operation. Entirely relieved after second. Seen at the end of two years.	Found left carotid much enlarged.	DR. T. H. HAMILTON, JR. <i>Buff. Med. Jour.</i> vol. ii. p. 119.

resulting in collections of matter in the brain or a morbid state of the cranium. Previously, however, to the present century the records of surgery furnish us but occasional instances of its successful performance. Abernethy, Rhodius, Marchettis, VanDerWeil, La Motte, Lysons and others,

* *South. Med. and Surg. Jour.*, vol. ii. p. 432. From *Jour. des Connais. Méd. Chirurg.*

mention cases in which the trephine was resorted to with success, but so scanty are these reports, scattered over a long period, that we must conclude that this operation could have received but little attention. Boërhaave advises it in cases of epilepsy arising from injuries of the head, and Van Swieten alludes to a case in which it failed. Tissot* strongly recommends it in cases where the disease is supposed to depend upon spicula of bone irritating the brain, of which he gives several instances. Nor does this operation seem to have obtained more favor among British than continental surgeons; solitary cases are found, at long intervals, in British journals, but they are too few in number, even in the aggregate, to justify a conclusion as to the propriety of the operation. Mr. Cline operated successfully in 1800, Mr. Birch in 1804, but not with entire success; and occasional subsequent examples may be gleaned from the journals.

But when we come to consult the records of medicine in our own country, and compare the frequency and success of this operation at home and abroad, the contrast is highly flattering to American surgery. We do not speak unadvisedly in asserting that more successful cases of trephining in epilepsy are recorded in this country during the last half century, than can be found during the same period in the whole range of European medical literature. In collecting some statistics of this operation we have, therefore, confined our attention to our own periodical literature, which furnishes us a sufficient number of cases, not only to establish the importance and feasibility of the operation, but our claim to its American character.

Prof. Dudley, of Transylvania University, who was the first to introduce this operation to the notice of American surgeons, in an excellent article on *Injuries of the Head*, published in the first volume of the *Transylvania Jour. of Med.*, remarks: "A fracture and depression, however slight in character, in which there may have been no loss either of sensation or volition, with barely momentary effects proceeding from concussion, are not unfrequently followed by distant

* *Traité de l'Epilepsie.* Par M. Tissot, D. M., &c. Lausanne, 1770.

results so painful and destructive in their consequences, that a train of reflections has been excited, and an operation elicited at our hands, the result of which seems to offer an assurance that important improvements in the treatment of injuries of the head are still demanded, in order to afford all the assistance to which surgical skill may ultimately be subservient." The principal *indications* for a resort to the trephine, either in epilepsy or painful affections of the head, in which it has occasionally been used with success, is briefly, when the disease follows an injury to the head, from which we conclude that depression, a fracture of the internal table, spicula of bone, or a collection of fluid is pressing upon or irritating the brain directly or through its meninges. The plainest indication for the use of the trephine is actual depression of the cranial bones at the seat of injury; for here not only the cause of the morbid condition of the brain is apparent, but its precise location is indicated. As, however, slight depressions are frequently followed by symptoms of greater severity than those more extensive, the amount of depression is not the criterion by which to judge of the necessity of the operation, but the character of the symptoms. "A laboring man in this vicinity received a blow on his forehead thirty years ago, which fractured and depressed the central portion of the bone to an extent sufficient to receive one-half of a large winter pear, and yet his only complaint is headache and dizziness during the heat of summer. Another case, which is by no means of rare occurrence, is that of a man with a slight fracture of the parietal bone, accompanied by a very partial depression, wherein no unpleasant symptoms were manifest until the fourth day, when epilepsy supervened with death in eighteen hours after."* The same rule may be applied to those cases where epilepsy follows an injury to the head, but without any depression, for it not very unfrequently happens that in such cases the disease depends upon fracture or injury to the internal table by which spicula of bone are thrust into the brain, or a low grade of inflammation is induced, terminating in the formation of some foreign

* PROF. DUDLEY, Op. Citat.

matters. Salmathius* relates the case of a man who received a blow on the forehead above the nose, from which under good treatment he recovered. Nine weeks afterwards, having complained of severe pain in the part struck, he was suddenly seized with epilepsy and died. On opening the head the inner table was found pressing on the brain, beneath which it was in a state of suppuration. Paré, Bonetus and others relate similar examples, and we refer to the following collection for like cases. We might here introduce a multitude of autopsies of epileptics, showing how frequently morbid growths from the cranial bones, or collections of fluids beneath the dura mater at the seat of former injuries, are the causes of this distressing malady, but reference to the examples which follow is deemed sufficient.

The following tables comprise, if not all, very nearly all the published cases of this operation performed in this country. In addition we may refer to the following cases, of which we are able to obtain no other particulars than the result of the operations. Dr. J. C. Warren has operated twice successfully; Dr. Mott, once successfully; Dr. Gibson, twice, once successfully, once unsuccessfully; Dr. McClellan, once unsuccessfully; Dr. Eve and Dr. Hurt, each once successfully. Prof. Parker, of this city, has both trephined the cranium and ligated the carotid in the same person for epilepsy, with an interval of a few months between the operation, but without relieving his patient. This very interesting case will be published entire hereafter.

In concluding these observations, we confess that the surgical treatment of epilepsy, with the exception of that of trephining, as far as we have been able to investigate the subject, affords to the victim of this terrible disease but little hope of ultimate recovery. Reports of successful cases are found under every variety of operation above noticed; but too frequently, when these cases are followed for years or months even, the relief is not found to be permanent, and the early confidence of the operator in his operation is diminished or lost. And we may here notice with regret the unjustifiable

* GUTHRIE, on *Injuries of the Head, &c.* London, 1842.

haste of surgeons in reporting their cases, before sufficient time has elapsed after the operation to give a rational opinion as to its success. It has happened to us frequently in this investigation to learn accidentally the failure of operations, where the patient at first so much relieved, was seen at the end of a year, or even six months. While, therefore, we express for the operation of trephining, preference over all other operations for the relief of epilepsy, where the cases are selected, not indiscriminately, but according to the indications above pointed out, we do not place implicit confidence in the result of many cases here recorded as successful. The general want of success in the treatment of this disease arises from our ignorance of its true pathology. Modern science has added but little in this respect to the knowledge of the ancients. When, however, we are able to arrive at the cause, whatever that may be, then and then only can treatment be rational and reliable. It is in this respect that we have confidence in the operation of trephining where the affection is dependent upon injuries of the head, for the exciting cause is absolutely known, its precise location accurately defined, and the plain indication is to remove it by surgical means.

Sex.	Age.	Cause.	Symptoms.	Duration.
1. M.	21	Blow on superior and middle portion of the head when 5 years of age.	Followed by hemiplegia; got better, but pain in the head at length came on; became feeble, liable to faint; fits set in, occurring every three or four weeks; cicatrix of scalp marked.	7 years.
2. M.			Convulsions every 3 or 4 days; severe pain in superior and posterior part of head; small tumors about the seat of pain; scalp sensitive; two depressions discovered.	9 months.
3. M.	23	Kick of a horse when 5 years of age, depressing a portion of right parietal bone.	Enjoyed good health until 15 years old, when epileptic convulsions came on, with loss of health, memory, &c.	8 years.
4. M.	40	Blow on side of the head.	Large cicatrix of the scalp; pain in head, jaw, neck and sides, with convulsions; sense of taste and smell defective.	4 years.
5. M.	40	Blow on posterior and superior part of parietal bone.	Nearly idiotic; seven convulsions, and often twelve per diem.	13 years.
6. M.		Gunshot wound of head.	Bone diseased; cicatrix 2½ inches in length; slight discharge continues from injury; general health bad.	
7. M.	40		Severe pain in side of head; loss of vision on left side; convulsion every 2 or 3 weeks: no depression.	
8. M.	41	Caries of cranial bones, from scrofulous abscess.	Upon healing, followed by dull and heavy pains, and epileptic attacks.	12 years.
9. M.	46	Fracture of frontal bone, from a blow with a piece of iron.	Recovered from injury; but after several weeks had an epileptic attack, which was repeated every month, for a time; has now two or three daily; pain in head and arm of injured side; sight impaired; memory gone; cicatrix and depression discovered.	14 years.
10. F.	50	Window sash fell upon the head.	Intense pain at seat of injury, but no convulsions; no marks of injury.	17 years.

Operation.	Appearances.	Result.	Authority.
Crown of trephine covered the depressed bone.	A spiculum of bone an inch long, protruded from the under surface of the removed piece, entering a large sinus, from which blood issued.	Had a convulsion during operation; no return for 3 years when last seen.	DR. DUDLEY. <i>Trans. Jour. Med.</i> Vol. i. p. 2.
Two circular pieces were removed covering this space, in direction of the longitudinal sinus.	Dura mater separated half an inch from brain, by a fluid, and "hard as a board."	Had two slight attacks in three months.	<i>Idem.</i>
Applied the instrument over the depressed bone.	A spiculum protruded from inner table half an inch; dura mater defective, and a sinus ran down to petrous bone, size of a hen's egg, from which much serum flowed.	Had two attacks on 2d day, but none after suppuration was established; well at end of 7 months.	<i>Idem.</i>
	No abnormal appearance.	Much better on 25th day.	<i>Idem.</i>
	Dura mater healthy, but separated one inch from brain by fluid.	Attacks less frequent and milder.	<i>Idem.</i>
Applied trephine at seat of injury.	Removed a morbid growth from dura mater.	Cured.	<i>Idem.</i> Op. Cit. Vol.
Removed a circular piece from point most painful; operation very painful, and hemorrhage from diploe.	Bone carious, thick and spongy; dura mater healthy; serum flowed freely.	Cured.	DR. GUILD. <i>Am. Jour. Med. Sci.</i> Vol. iv. p. 96.
Crown of trephine covered depression.	A spiculum of bone found on under surface.	Patient expressed entire relief on removal of bone; cured.	DR. HAYWARD. <i>Bost. Med. & Surg. Jour.</i> June, 1832.
Removed depressed bone, and made a section of frontal sinus.	Bone had a ridge on lower surface; membrane too vascular; portion of inner table of frontal bone separated and forced back upon the brain.	Had return of fits on 26th day, from improper diet; 9 months after, reported himself nearly well.	DR. D. L. ROGERS. <i>N. Y. Med. & Phys. Jour.</i> Vol. v. p. 79.
Applied trephine at seat of pain.	Exostosis of inner table $\frac{1}{2}$ of an inch in thickness.	Recovered.	DR. E. H. DIXON. <i>Bost. Med. & Surg. Jour.</i> Vol. XXXV. p. 52.

Sex.	Age.	Cause.	Symptoms.	Duration.
11. F.	25	Stroke of the sharp edge of an axe on posterior part of left parietal bone.	Lancinating pains in this part of head, where a cicatrix is felt, and the bone seems to be depressed; general health good; fits come on at uncertain periods, but more apt to concur with catamenia.	20 years.
12. F.		Blow on head with a hoe.	Constant headache, with convulsions.	
13. M.	Ad.	Blow on head with a club.	Wound cicatrized, but convulsions ensued; loss of speech; slight depression detected.	4 weeks.
14. M.	21	Fall of limb of a tree, fracturing right parietal bone.	Convulsions ensued, and have continued; mind impaired; a depression of bone an inch broad, and an inch and a half long, detected.	7 years.
15. M.	28	Fracture of anterior and superior angle of parietal bone, by kick of a horse.	Six years after was attacked with epilepsy; depression at the place of injury; general health good; fits every week.	13 years.
16. M.	26	Fracture of skull, over the eye, from explosion of gun.	Bone exfoliated; constant pain in the head; epileptic fits, an hundred in a month: finally, evidences of insanity.	
17. M.		Struck on side of head by a spent ball.	Recovered and remained well a month, then sickened; had epileptic attacks; slight discharge from head; bone carious.	
18. M.		Struck on head with a cane.	Depression of upper portion of occipital bone; convulsions daily.	9 years.
19. M.	27	Thrown from the back of an ox, against a wall.	Loss of power in right leg and arm, and speech; recovered in 3 months; suffered much headache; six years ago had an attack of epilepsy, upon the healing of ulcers of legs; are now often repeated; depression in left parietal bone.	19 years.
20. M.	14	Thrown from a cart, injuring the sinciput.	Epileptic fits followed some time after, gradually increasing in frequency and violence; often had ten or twenty per diem; mind began to decay.	9 years.

Operation.	Appearances.	Result.	Authority.
Removed the depressed bone, and filled the wound with lint; patient under influence of chloroform.	Dura mater covered with false membrane; no diploe; cicatrix contained the occipitalis major nerve.	Wound suppurated and granulated freely; entirely relieved; seen at end of two years.	DR. HOLSTON. <i>West. Lancet</i> . Vol. ix. p. 85.
Trephined at seat of injury.	A splinter of bone an inch long had passed through longitudinal sinus.	Relief to headache; longer intervals between convulsions.	<i>Ibid.</i>
Could not raise depressed portion.	Found a fracture, clot of blood, an oz., on dura mater, which was villous.	Cured.	DR. POPE. <i>St. Louis Med. and Surg. Jour.</i> Vol. vii. p. 293.
Removed depressed bone by applying instrument twice.	No growth on under surface; bloody serum escaped, followed by a gush of blood, which was restrained by pressure; left arm and leg paralyzed.	Paralysis disappearing; no convulsions; health better at end of a month.	DR. YANDELL. <i>West. Jour. of Med. and Surg.</i> Vol. i. p. 384. N. S.
Applied the trephine behind the scar.	Dura mater healthy; 8 oz. of serous fluid escaped from a puncture through membranes.	Wound healed quickly; no return of disease 2 months after.	DR. CADWALL. <i>Bost. Med. & Surg. Jour.</i> Vol. xxiv. p. 369.
Applied trephine at seat of injury.		Immediate relief. No note later than date of operation.	DR. HAYWARD. <i>Bost. Med. & Surg. Jour.</i> Vol. xxviii. p. 320.
Applied trephine at seat of injury.	Inner table broken down, and resting on meninges: dura mater thickened: matter flowed out.	"Recovered."	DR. TROWBRIDGE. <i>Bost. Med. & Surg. Jour.</i> Vol. xxviii. p. 345.
Applied trephine at seat of injury.	Both tables fractured and depressed, the inner much thicker from deposition of ossific matter.	Suppurated freely for three months; healed, and he "entirely recovered."	<i>Idem.</i> Op. Cit.
Applied instrument over depression.	Serum flowed freely; bone $\frac{1}{2}$ of an inch thick at one point, $\frac{1}{4}$ at the other, the thicker part being that depressed; dura mater healthy.	Felt relieved when the water escaped; convalesced. No note of him later.	DR. HAYWARD. <i>Bost. Med. & Surg. Jour.</i> Vol. xxviii. p. 265.
Applied trephine at seat of injury.	A spiculum of bone on under surface, pressing dura mater, which was healthy.	Attempt to close wound, or improper diet, induced epileptic attacks. Entirely recovered; seen at end of 8 months.	PROF. PANCOAST. <i>Phil. Med. Exam.</i> Nov. 1849, p. 648.

Sex.	Age.	Cause.	Symptoms.	Duration.
21. M.	23	Fracture of skull from a falling branch of a tree.	Convulsions always at night; a depression exists at inferior and posterior angle of parietal bone, the seat of all his pain.	10 years.
22. M.	24	Kick of a horse when a boy.	Epileptic attacks ensued, and latterly grew more frequent; begin with excessive pain at seat of injury, which is tender; depression at inferior and posterior angle of parietal bone, two inches long and nearly an inch deep.	
23. M.		Penetrating wound of frontal bone, with a pitchfork.	Paralysis of right side; loss of speech followed, from which he partially recovered in six months; had an attack of epilepsy; fits recurred every eight or ten weeks, for a year, when they became more frequent.	6 months.
24. M.	14	Kick of a horse.		12 years.
25. F.	Ad.	Injured by a blow on head when a child.	Suffered much from severe pains in the head; "had nervous spells, not unlike convulsions."	
26. M.	Ad.	Blow on head from a cane.	In about twelve hours had an epileptic attack, which was repeated often, the intervals diminishing; began to be stupid.	3 days.
27. F.	35	Blow on forehead from stone.	Small pieces of bone were removed from wound, which continued to suppurate several months, then healed, 18 months after injury, had convulsions; pregnant; no pain in head or wound; relieved by bleeding, &c.; several months after, had another attack, and finally a third; cicatrix painless, depressed.	18 months.

Operation.	Appearances.	Result.	Authority.
Applied trephine twice, removing a diamond shaped piece from seat of injury.	Three exostoses on under surface, largest $\frac{1}{4}$ inch thick, and imbedded in the brain; edges of fracture united irregularly, giving a thickness of bone as 1 to 3.	Recovered and enjoyed good health, with exception of "nervous spells."	DR. HOLSTON. <i>West. Lancet</i> , Nov. 1850, p. 708.
Applied four crowns of trephine around depression; administered chloroform.	Bone fractured into three pieces, and driven in upon the brain; removed with difficulty; triangular in shape, $3\frac{1}{4}$ inches base, $2\frac{1}{2}$ altitude; dura mater dusky red in centre.	Convalesced without any difficulty. Brain began to pulsate; did not at time of operation. At end of two months was at work and well.	<i>Idem</i> . Op. Cit.
Applied crown over the puncture.	Dura mater adherent; fissure of internal plate.	Frequency of fits diminished for a year, then ceased entirely; recovered use of speech and limbs. Seen at the end of five years.	DR. CAMPBELL. <i>Am. Jour. Med. Sci.</i> Vol. xii. p. 370. N. S.
		Entire intermission of fits for eight months; returned, but in a "strikingly mitigated" form, intervals being long, and paroxysms slight.	DR. WELLS. <i>Essays on Path. & Therapeut.</i> By S. H. DICKSON, M. D. Vol. ii. p. 464.
Applied trephine at seat of injury.		Speedy and entire relief. Seen at end of a year.	<i>Mat. Med. and Therapeut.</i> By T. D. MITCHELL, M. D. p. 722.
Trephined at seat of injury.	A large coagulum of blood found on dura mater.	Convalesced; had no return of fits. Seen after three weeks.	DR. ELLIOT. <i>Trans. Jour. Med.</i> Vol. ii. p. 288.
Two applications of instrument, to include depression.	Bone $\frac{1}{4}$ inch thick, from deposit of osseous matter on under surface; dura mater healthy.	Immediate relief: wound healed readily; recovered. Seen at end of a year.	DR. FULLER. <i>N. Y. Jour. Med. and Surg.</i> Vol. iii. p. 331.

Sex.—Males, 22. Females, 5.

Age.—Varying from 14 to 50.

Causes.—External violence to the head, 24. Scrofulous caries of cranial bones, 1. No cause known, 1. Not given, 1. No synopsis of symptoms.

Duration.—Varying from 3 days to 20 years. Less than one year, 4. Between 1 and 5 years, 2. Between 5 and 10 years, 5. Between 10 and 20 years, 8. Not given, 8.

Operation.—In all the cases noted, except one operation, was at the seat of injury.

Appearances.—Thickening of bone in 7. Fracture in 6; both tables, 4; inner table fractured and driven in upon the brain, 2. Spicula of bone, 5. Dura mater healthy, 6; diseased, 8. Collection of fluids, 10; coagula, 2; serum and blood, 8. No morbid appearances, 1.

Result.—Unrelieved, none. Relieved, but not cured, 3. Immediate relief after operation, and no farther note of result, 2. Relieved for one month or under when last seen, 3; between one and six months, 3; between six months and one year, 6; between one and five years, 3; set down *cured*, but lapse of time from date of operation to time last seen not given, 7.

ART. VI.—*Upon the Medical Topography and Diseases of the Isthmus of Panama.* By JOHN A. LIDELL, M. D., of New-York.

THE northern or Atlantic side of the Isthmus of Panama is generally reported to be one of the most unhealthy portions of the American continent. It is generally believed that Europeans and people of our own country going there to reside will suffer more from sickness than in most other tropical climates. This idea is by no means new. Several writers have characterized Porto Bello as "the grave of Europeans." The English fleets, sent at different times for hostile purposes to that portion of the Spanish main, have borne witness to the same melancholy fact. The abortive efforts of the Spanish government to colonize the northern side of the Isthmus of Panama with her own subjects, foreseeing the future commercial importance of that neck of land, and feeling its then present value as the connecting link between

her immense territorial possessions in North and South America, have told the same melancholy story.

At the present time, the greatest obstacle in the way of constructing the Panama Rail-Road is the unhealthiness of the country through which it passes, and this will ever be a serious obstacle to the working of the road after its completion. Speaking in general terms, the services of laboring men taken there from the United States can not be safely counted upon for three successive months. According to my observations, laborers from the United States or Europe may work pretty well for about one month, but before the expiration of the second month one-half of a given force will be either on the sick list or materially enfeebled by sickness already undergone. Before three months have passed away a large proportion will either have died or been sent out of the country as unfit for further labor, and the value of the services of those who remain will have been seriously lessened.

The natives of the isthmus (who are mostly colored people) are not entirely exempt from the ravages of the climate, though they suffer much less than Europeans. A disorder of frequent occurrence among them is a form of remittent fever, the appellation of which, in their vocabulary, is "calentura," or the "hot fever," a name expressive of its most prominent symptom. My opportunities for observation among the natives were limited, but I seldom saw what might be called an elderly person among them. They are also for the most part "mixed breeds," but few of them being either full-blooded Africans, Indians or whites. They are generally rather small in stature, not inclined to obesity, and many present a sickly appearance. I remarked also that the women for the most part became old prematurely. Gentlemen engaged in the Chagres trade have informed me that not a solitary native who was prominently engaged in business at that town only three years ago is now alive. Persons coming to the isthmus from other provinces of New-Grenada are more liable to be sick than those born upon the soil, until acclimation has taken place. The full-blooded negro population withstand the ravages of the climate much better than either the "mixed breeds" or the whites. The following remarks by Dr. Ferguson accord pretty nearly, though not entirely, with my own observations. Says Dr. Ferguson: "To him (the negro) marsh miasmata are, in fact, no poison; and hence his incalculable value as a soldier for field service in the West Indies. The warm, moist, low and leeward

situations, where these pernicious exhalations are generated and concentrated, prove to him congenial. He delights in them, for there he enjoys life and health as much as his feelings are abhorrent to the currents of wind that sweep the mountain top, where alone the whites find security against endemic fevers."

Of the foreign white population resident upon the isthmus, some portions stand the climate better than others. Those born within the tropics suffer least of all. Of the Americans and Europeans, those suffer most who labor under old organic diseases. I remember several patients of tubercular diathesis who had come to the isthmus for the benefit of their health, and in every case the result was most untoward. Such persons invariably, after a brief stay, either died or were compelled to seek prolongation of their days by precipitate flight. I am not acquainted with another country less favorably adapted for the residence of phthisical patients. The excessive humidity of the atmosphere, the constantly elevated range of the temperature, and the abundant noxious exhalations from the soil, conspire to destroy them as certainly as the sword. Those who stand the climate best possess vigorous constitutions, and are not enfeebled by either hardship, vice or disease. Men coming from the Southern and Western States, par excellence the malarious portions of our confederacy, do not possess any advantage over those coming from the Northern and Eastern States. I experienced my first attack of the climate fever about four weeks after my arrival at Navy Bay, and had recurrent attacks every second, third or fourth week while I remained upon the isthmus, which was a period of something more than five months.

But although the Atlantic side of the Isthmus of Panama is very sickly, only a few of the diseases incident to it are suddenly or rapidly mortal. This statement is well illustrated by the fact that of more than one thousand cases of disease treated either by myself or under my immediate observation in the valley of the Rio Chagres, but ten patients died; and I have understood that some physicians present even better results than mine.* Now I have not mentioned this to show the excellence of the doctors upon the isthmus, but to prove that the great majority of the dis-

* In order to avoid misconceptions, the reader should bear in mind that our patients were sent out of the country as fast as they became unfit for further service, always provided they were not too sick. How many or what proportion of them died on the voyage to their homes is to me unknown.

eases there are not immediately fatal. It is true that dysentery abounds, and that congestive fever is often seen, but both of these disorders are generally manageable by treatment. Persons lose their health or their lives in that country, not so often by sudden attacks of acute diseases, as by the insidious and undermining influence of climate, and by frequent and often repeated attacks of mild fever, bilious troubles, and disorders of the mucous membranes. In this way people are worn out gradually, though sometimes pretty rapidly. The greatest misfortune is that they acquire pathological lesions of important organs, particularly of the liver and the spleen, recovery from which is sometimes impossible, and often very tedious, even after they have been removed to a healthy climate, and are surrounded by the most favorable circumstances. It is my opinion that the climate of the northern side of the Isthmus of Panama is not so injurious to most Europeans and Americans in its immediate as in its remoter consequences.

After these general remarks, I propose to inquire into the special etiology of the diseases of that climate. I propose to ascertain what morbid causes are there at work producing in the stranger diseases which he never had before, and diseases which he never would have known in a strictly healthy climate. By so doing, an essential service will, I hope, be rendered to the cause of humanity. The eyes of the whole commercial world are now turned towards the isthmus, because it affords facilities for inter-oceanic communication unrivalled by any other portion of the continent. About five thousand passengers now cross over monthly from Chagres to Panama, or vice versa. By the completion of the Panama Rail-Road, not only will the number of transit passengers be greatly augmented, but the commerce of the southwestern coast and the islands of the Pacific will be turned into this channel. Such a large increase of traffic will attract multitudes of ardent and enterprising men to those shores, and will build up towns and cities. To them the causes of diseased action which are in operation upon the isthmus of Panama, cannot be matters of indifference or unimportance.

Now, speaking abstractly, all causes of disease must be either external or internal. By the external causes of disease, I mean those which surround the individual and act upon him from without; by the internal causes, those existing within him. The last class of morbid agents do not properly come within the scope of the present investigation, for they are about the same in all coun-

tries and in all places. This appears to me so clear as not to stand in need of illustration. It must be agencies existing without and apart from the individual, which produce the disorders that are peculiar to or characteristic of any country or latitude. Now, in the present state of human knowledge, we must search after these morbid agencies in the varying conditions or exalted range of the atmospheric temperature, in the humidity or dryness, *i. e.*, the hygrometric state of the air, and in the admixture with it of noxious exhalations or gaseous poisons. In the prosecution of our investigation the following order will be adopted: I. We will examine into the morbid effects of the atmospheric temperature; II, consider the noxious exhalations or gaseous poisons as causes of disease; and III, discuss the influence of the hygrometric state of the atmosphere upon human health.

But before proceeding further it may be well to place clearly before our minds the general features of the diseases of the isthmus, and this can be best accomplished by presenting the record of the diseases of 382 patients treated by myself in the Panama Rail-Road Company's hospital, at Buyo Soldado, between the 15th of January and the 1st of May, 1851. It should, however, be borne in mind that all of these patients were either Europeans or Americans. That none but persons severely sick were admitted to hospital; that cases such as fever and ague, mild attacks of diarrhœa and dysentery, catarrhs, &c., were always treated under the name of out-door patients, and that the number of the out-door far exceeded the number of the hospital patients.

Climate or remittent fever, with the bilious, gastric, or enteric complication.....	250	Splenitis.....	1
Congestive fever.....	23	Hernia et orchitis ab injuria.....	1
Dysentery.....	48	Scleroto-conjunctivitis.....	3
Diarrhœa.....	9	Neuralgia miasmatica.....	1
Muco-enteritis.....	8	Panaritium.....	1
Chronic ulcers.....	2	Insanity and dysentery.....	1
Incised wounds.....	2	Cholera spasmodica.....	1
Inflammatio Genu.....	1	Diarrhœa and remittent fever.....	4
Inflammatio manus et pedis.....	1	Pleurisy.....	1
Gonorrhœal orchitis.....	1	Pleurisy and remittent fever.....	1
Lymphangeitis et febris bilios.....	1	Syphilia.....	3
Enteritis et febris remittens.....	2	Erysipelas faciei.....	1
Tubercularia pulmonum.....	4	Catarrhus acutus.....	1
Dysentria chronica et splenitis.....	1	Neuralgia miasmatica et otorrhœa.....	1
Febris remittens et delirium tremens.....	1	Hypertrophia cordis.....	1
Abcessus.....	2	Inflammatio fibro-cellularis pollicis pedis.....	1
Congestion of the brain by stroke of the sun.....	2	Febris congest. et enteritis et dysenteria.....	1
Coussio cerebri et orchitis ab injuria.....	1		
		Total.....	382

I.

Of the atmospheric temperature considered as a cause of disease.—

The Isthmus of Panama lies between the eighth and tenth parallels of north latitude, and consequently frost and snow are entirely unknown there. The climate is perpetual summer, and the year is divided into seasons only by the advent and departure of the annual rains. The lowest point at which I saw the mercury stand, and then only on one occasion, was 69° Fahr. The highest point in the shade was 89°. The thermometric record kept at Buyo Soldado gives the following daily averages for the month of March last :

6 A. M.	9 A. M.	12 M.	2 P. M.	4 P. M.	6 P. M.	9 P. M.
74.5°.	80.2°.	84.6°.	84.6°.	83.15°.	80.9°.	78°.

The thermometer used for these observations was carefully suspended where it would be uninfluenced by the sun and wind. The averages for the month of March give a fair idea of the averages for any month in the year. If we had space to publish in extenso the thermometric tables we could show another fact worthy of notice : the remarkable uniformity of the temperature on different days, the comparison being made between corresponding hours. We should also see that the great and sudden changes of temperature, which are constantly occurring in our climate, are never experienced on the Atlantic side of the Isthmus of Panama. This fact, I presume, explains the unfrequent occurrence in that district of inflammations of the serous tissues and of the parenchyma of organs generally. By way of summing up we may remark, that the most prominent features of the atmospheric temperature in that country are its constantly elevated range and its uniformity throughout the year.

Now everybody has felt during even our northern summer the depressing influence of protracted hot weather upon the nervous system, causing languor, lassitude, want of energy, and a disinclination to every kind of exertion, whether bodily or mental.* This depressed condition of the animal powers, especially after it has been continued for some time, is probably associated with enfeebled ability on the part of the economy to resist the assaults of morbid agencies. In this way an elevated range of temperature may become a predisposing cause of disease.

* Watson's Lectures, p. 85.

But protracted heat not only exerts a depressing influence upon the animal functions; it also exerts a stimulating influence upon the organic functions. Experiments made by Dr. Blagden and others have abundantly shown that the temporary application of great heat to the body increases remarkably the frequency of the contractions of the heart, increases remarkably the rapidity of the circulation of the blood. We find evidence to the same purpose in the annual changes which occur in the vegetable kingdom in our northern latitude; the summer renewing its foliage, the winter checking and repressing it; and still more in the superior luxuriance of vegetation in warm climates as compared with cold.* Still other corroborative testimony is furnished by the phenomena of hybernation. The genial warmth of spring recalls to action those functions of the animal which had been suspended throughout the season of winter, and produces a vigorous reaction of those powers which had been feebly exerted throughout the same period.

Again, heat, whether produced by artificial or by natural processes, whether it be generated by a fire in a close room, or by the summer sun in the open air, promotes the cutaneous perspiration. This fact furnishes another example of the stimulating effect of heat upon the organic functions. Now profuse perspiration, in whatever manner produced, is for the most part a conservative process, by which, according to a beautiful law of chemistry, the uniformity of animal temperature is maintained under varying conditions of external warmth, this uniformity of temperature being an indispensable condition for the existence of all highly organized animals. But at the same time that profuse perspiration answers this useful purpose, nay, is even necessary for the preservation of life under a high degree of external temperature, it debilitates the animal organism by the loss of fluids it occasions, by the changes in the quantity of the circulating fluids it effects. And in this way the sweating process, when continued day and night for weeks and months almost without cessation as it is on the Isthmus of Panama, becomes an important predisposing cause of disease.

But again, an elevated range of temperature stimulates the action of the liver. Experience, even in temperate climates, has shown that protracted hot weather exerts a notable influence

* WATSON'S *Lectures*, p. 64.

upon the function of this organ, increasing the quantity of its secretion and altering its quantity. Thus at the close of summer and in the beginning of autumn we annually witness frequent attacks of vomiting and diarrhœa, produced apparently by the excessive quantity and morbid quality of the bile. In the lower latitudes this morbid effect of heat is still more apparent, producing not unfrequently violent disorder of the stomach and intestines. On the isthmus I often observed that the fecal evacuations of persons in tolerable health consisted mostly of bile, frequently black in color and of the consistence of tar, sometimes bright yellow in color, exceedingly acrid in quality, causing severe burning pain during its passage downward through the intestines. The jaundiced complexion and bilious diathesis, which almost every person brings home after a long residence in tropical climates, should be ascribed, to considerable extent, to the deleterious influence which protracted heat exerts upon the biliary function.

But in what way does an elevated range of atmospheric temperature thus affect the hepatic function? Dr. James Johnson has "distinctly pointed out the sympathy or consent that obtains between the liver and the skin under varying conditions of external warmth." Now this "sympathy or consent" is but the expression of a fact; it in nowise accounts for the fact. The same cause which produces excessive secretion from the skin, produces excessive secretion from the liver. Here the teachings of modern physiology may be brought to our aid. If animal heat is generated mainly by the combustion of carbonaceous matter, yielding as its products carbonic acid and water, which are excreted by the lungs and the skin; if the function of the liver be, to considerable extent, supplemental to that of the lungs, this supplemental office being the excretion of carbonaceous matter not consumed in the process of generating heat, and not deposited in the areolar tissue in the form of fat; if it be true that in hot latitudes the losses of heat from the animal body by radiation and conduction are not so large as in cold latitudes; if, in other words, it does not require so much heat generated by vital chemistry to maintain the temperature of the body at a given point in hot as in cold climates, then it must follow, the quantity of non-nitrogenized food being nearly the same in both cases, that the liver is called upon to eliminate more carbonaceous matter from the blood, to secrete more bile in hot than in cold climates.

Again, in the course of examining Europeans and Americans,

who, after residing for a considerable length of time upon the Isthmus of Panama, have applied to me for treatment, I have often, nay, pretty commonly found hypertrophy of the liver. Other physicians, who have had ample opportunities for observation, have told me that the result of their experience is substantially the same. The degree or amount of the enlargement has varied much in different cases. The effect of the climate of the East Indies in increasing the size of the liver is notorious. Now an elevated range of atmospheric temperature, such as we find upon the isthmus, appears to me to be one of the most probable causes of such hypertrophy. The increased activity of the hepatic function thus produced is accompanied by an increased flow of blood to the organ (congestion,) whereby its size is somewhat increased by mechanical means, and its nutrition is promoted. Moreover, whatever be the explanation, it is a well-known law of the economy, that if the function of an organ be increased, its size is increased also. Witness the kidney, when its fellow has been destroyed by disease, and the burden of secreting all or nearly all of the urine is thrown upon it; the muscles of laboring people, and the muscles of the right arm compared with those of the left. Of a few of these cases of hypertrophy of the liver the cause may have been chronic inflammation, but this explanation is not admissible in most of the cases which I have seen. In fact, owing principally, I suppose, to the singular uniformity of the temperature, I scarcely saw a case of hepatic inflammation upon the Isthmus of Panama. Another and an important cause of enlargement of the liver, which we will examine in another part of this investigation, is malaria and the fevers occasioned by it.*

II.

Of the *noxious exhalations* existing in a state of admixture with the air, or of *marsh miasmata*.

That malaria, or marsh miasmata, is a specific poison, and capable of producing specific effects upon the human system, cannot be denied. It is true we have never been able to detect its presence by even the most delicate chemical tests. It is true we are

* We have discussed, at considerable length, the stimulating effect of heat upon the organic functions. The over-action thus produced will sooner or later be followed by deficient action, or depression, the consequences of which are palpable to every reader, after what has been said.

ignorant of both its chemical composition and sensible properties. We have become convinced of its existence, and we recognise its presence only by the morbid effects which it produces on the animal economy. Substantially the same remarks are applicable to the contagion of small pox, of typhus, and to the pestilential effluvia generated in the wards of large hospitals. And yet does anybody doubt the existence of the last mentioned poisons ?

A good deal of attention has been given by observers to the natural history of marsh miasmata, and their laudable exertions have been rewarded with considerable success. It has been satisfactorily determined that a certain degree of temperature (above 60° Fahrenheit) is necessary for its development. It has never, or but seldom, been discovered above the fifty-sixth degree of latitude. In cool climates it usually occasions fever and ague ; in warm climates, where it is generated in greater abundance, its poisonous effects are more severe, and it gives rise to remittent fevers ; but in tropical climates the most violent effects are produced, for there the conditions necessary for its generation are more nearly perfect. It is there that severe congestive fevers are most frequently met with ; it is there that English writers have seen paludal fevers simulate the continued or infectious fevers of northern latitudes.

A certain quantity of moisture is also essential for the development of marsh miasmata. The countries, or portions of a country infested by this poison, are commonly remarkable for their humid or swampy character. Abundant evidence of this fact is furnished in every part of the United States. That this is not an accidental condition is rendered probable by a circumstance which is sometimes observed, viz. : while the marshy plain is almost uninhabitable on account of the prevalence of malarious disorders, the people living on the neighboring hills, where the soil and atmosphere are dry, do not suffer from them. And again, localities formerly noted for malarious disorders, *e. g.*, the city of London, have been almost freed from them by improvements in the drainage.

Besides the presence of a sufficiently exalted temperature, and a sufficient quantity of moisture, still other conditions are necessary for the generation of this poison. " If heat and moisture were alone adequate, we should find malarious fevers prevailing among sailors when out at sea ; but it is not so, whatever may be the temperature under which they cruise. It is when they approach

the coast or land upon it that they are attacked."* The only additional conditions which seem to be required are the presence of the soil and the atmosphere. The kinds of soil most congenial to the production of malaria have not been satisfactorily pointed out. The popular idea that it is originated only in marshes or swampy ground is not always true. I have seen malarious fever very prevalent upon dry ground, and at a point quite remote from marshes and swamps. There is another thing worthy of notice while we are considering the origin of these noxious exhalations. They never appear while the swamps are full of water and the earth is saturated with moisture. It is when the soil is drying up that they are poured forth in the greatest profusion.

Now all the conditions required for the development of malaria are amply furnished upon the Atlantic side of the Isthmus of Panama. The thermometer ranges constantly above 69° Fabr. The temperature throughout the year is that of a warm summer. No frosts or snow appear at any season to purify the pestilential air. There are also large tracts of marshy ground. The rail-road from Navy Bay to Gatun passes nearly all the way through a morass. The surface of the country is generally undulating, in some parts it is even hilly, but no high mountain range traverses it, such as we find on the Island of Jamaica.† An abundance of moisture is always present in the atmosphere; it is so humid that books and clothes are speedily destroyed by mould unless much care is taken with them. During eight months of the year more

* WATSON'S *Lectures*, p. 453.

† In this connection the following account of the physical geography of the isthmus by Mr. Lloyd, an engineer, sent by Bolivar, in 1827, to make a survey of that district, may not be uninteresting.

"The northern Cordillera exhibits the first indications of depression in the Nicaragua, but again rears itself for a time in the Province of Veragua, and is there crowned with a very fine plain called La Mesa, (The Table.) In the eastern part of the province it breaks into detached mountains of considerable height, and of the most abrupt and rugged formation; thence proceeding still to the eastward, innumerable sugar-loaf mountains appear, not above three or four hundred feet high, with their bases surrounded by plains and savannahs; and finally, about Chagres on the one side, and Choneca on the other, these also disappear for a few miles, and the country becomes almost uninterruptedly flat. Presently, however, the sugar-loaf mountains again thicken, and becoming connected, form a small Cordillera, running from about opposite Porto Bello to the Bay of Mandingo, where is the second break. The land then continues low through the Province of Darien and Choco, beyond which point the Cordillera again raises itself on an extended scale and enters South America."—*Vide ROCKWELL'S Report*, p. 455.

or less rain falls almost every day. For a considerable part of that time showers occur in the afternoon and evening, by which the ground is moistened, but it is dried up again next morning by the action of the sun. Everywhere in that country we see nature, as the chemist, with her three principal agents, light, heat and moisture, stimulating the development of organic forms, and hastening the processes of decay and dissolution. We are, therefore, not surprised to find that a large portion of the diseases of the isthmus claim a malarious origin. Of the three hundred and eighty-two patients mentioned in the hospital record, two hundred and seventy-three, or considerably more than two-thirds, had miasmatic fevers. The most common types of these disorders are intermittents and remittents, which are readily managed by treatment; but severe remittents and congestive fever are not unfrequently met with.

But these fevers are not the only or the most untoward effects of this subtle poison. It has often been observed, that persons whom necessity has forced to remain in highly malarious districts, after a longer or shorter space of time, become thin in flesh, pale and sallow in complexion, feeble in point of strength, and liable to severe disorders of the stomach and intestines. In the intervals between their periodic attacks of fever, it has been observed that they frequently suffer from diarrhœa and dysentery. Besides these lesions of the mucous membrane, they often acquire important pathological conditions of the spleen and liver. The former organ sometimes reaches an enormous size. I have often felt it through the parietes of the abdomen; and, on a few occasions, have found it so much enlarged, that it extended down to full half the distance between the short ribs and the umbilicus. Now, it has been suggested, that the unnatural concentration of the blood, in the internal parts, which occurs in every paroxysm of fever and ague, when often repeated, affords a rational explanation of this phenomenon. That this is true, in many cases, I do not doubt; but there are also other cases which require a different explanation. For example, I suffered in my own person, upon the Isthmus of Panama, a considerable enlargement of the spleen, an enlargement so considerable, that the organ could be distinctly felt through the integuments of the belly. But in numerous attacks of fever I had only one chill; I had but one of the paroxysms in which the blood is driven away from the external surface of the body, and forced in upon the internal parts

In every other instance my fever commenced with a feeling of languor, lassitude and weariness, with aching in the bones, and particularly in the left leg, with frequent yawning and stretching, but unaccompanied by rigors. Again, I had a patient in the same country, who was suffering from an ague-cake, acquired in the valley of the Magdalena River. In his case the enlargement was so great, that it could be seen externally; and touching it, I made this singular observation. *Immediately preceding* each attack of fever, there occurred a palpable increase of the enlargement of his spleen, which usually subsided with the fever. Indeed, so constantly did this phenomenon appear, that the patient himself used to anticipate attacks of fever by watching this organ. I ought to mention that his fever was always ushered in, while I knew him, either entirely without chills, or with only slight sensations of coldness. Again I noticed upon the isthmus, that in cases of hypertrophy of the spleen, the amount of the enlargement was often entirely disproportionate to the frequency and severity of the paroxysms of intermittents. Now, the explanation of such cases seems to me to be, that marsh miasmata has a direct influence in producing disorders of the spleen, aside from the secondary influence exerted through paroxysms of fever; a direct influence increasing the quantity of blood in the organ, (i. e. producing congestion,) and disturbing the processes of nutrition going on in it. In precisely the same way, I think, we should account for the morbid states of the liver, (including hypertrophy,) which are generally believed to be produced by the operation of malaria upon the system.* With regard to the mechanical effect of paroxysmal fever, in causing enlargements of the spleen and liver, it is probably much greater upon the former than the latter organ, owing to the marked difference in their anatomical structure.

But these diseased states of the liver and spleen are only parts and parcels of a general morbid process, resulting from the long continued application of this deleterious agent to the animal economy. The blood becomes thinner than usual, the quantity of its red disks is diminished, and a state of *aræmia* supervenes. In com-

* It should be recollected, that congestion of the whole portal system generally accompanies the congestions of the liver and spleen just mentioned. We can also readily see that important morbid consequences must follow the stagnation of the blood, accompanying these congestions, especially when they are of long duration. These facts should constantly be borne in mind when we attempt to explain the phenomena of many cases of malarious disorder.

mon with the nutrition of the blood, the nutritive processes throughout the body are impaired or perverted, and the sufferer becomes not only pale, but emaciated also. The mucous membranes acquire what may be denominated an irritable condition, and are, in consequence, exceedingly liable to higher grades of diseased action. There is a notion among laymen on the isthmus, that the fevers are apt to degenerate into dysentery; and it seems to be true, that after repeated attacks of fever, persons are more subject to diseases of the bowels. But while these changes are taking place in the physical organism, corresponding changes are occurring in the mental phenomena. The spirits and intellect of the sufferer become low and feeble, partaking of the decay of his physical powers. He loses all taste for intellectual pursuits, and even if that remains, he has lost the ability to gratify it. Such are the effects of marsh miasmata upon many persons who attempt to reside upon the Atlantic side of the Isthmus of Panama.

That there is any poison, other than malaria, habitually diffused through the atmosphere of a considerable district of that country, we have no proof. I did not meet with a single case of typhus or any allied disorder. The only disease that came under my observation, which might have been confounded with typhus, was climate or remittent fever, in the typhoid stage. But in most cases, the deferential diagnosis was easily made, by examining carefully the symptoms accompanying its accession, and marking its progress. It occurred principally in persons enfeebled by intemperance and previous attacks of fever, or those who had injudiciously taken irritating purgatives. The most important lesion complicated with the paludal fever in such cases, seemed to be a low grade of inflammation in the mucous membrane of the small intestine. The correctness of this view of its pathology is rendered probable by the entire absence, in the first stage, of the nervous symptoms peculiar to typhus; by the tenderness under pressure, in the regions of the small intestines; by the presence of diarrhœa and tympanitis, and by the beneficial effect of remedies proper for the cure of such a lesion. I regret exceedingly that I was unable to make dissections in some cases where death had taken place by this disease, for they would have assisted materially in determining its pathology.

III.

Of the hygrometric state of the atmosphere as a cause of disease.—
We have already had occasion to notice the excessive humidity of

the air upon the northern side of the Isthmus of Panama. We have only mentioned the fact in general terms. We are still in want of those accurate hygrometric observations which would enable us to trace the varying conditions of health under the varying conditions of atmospheric moisture. But no careful observer, who has lived at Navy Bay, Chagres, Porto Bello, or in the valley of the Chagres river, will deny the correctness of the general statement. This excessive humidity is occasioned by the warmth of the climate, the proximity of the sea, the numerous streams of water traversing the country, the presence of much low and marshy ground, and the fall of a greater or less quantity of rain during two-thirds of the year.

Let us now consider the effect of this state of the atmosphere upon human health. Dr. Chomel makes the following remarks :* "Affections of the mucous membrane and those called adynamic, prevail under the influence of a *warm* and *moist* air; catarrh, scurvy and rheumatism occur more particularly when the atmosphere has for a long time been moist and cold." "In our climate," (Paris,) he continues, "the southwest wind is of a warm and moist temperature; the northwest wind is cold and moist. The influence of these winds in the production of diseases is the same as that of the different qualities to which they correspond;" and thus it seems that the popular idea of the unhealthiness of the warm, moist weather, which we sometimes have in this climate in the spring and autumn, is not altogether erroneous. Many of us have noticed how dull and languid we feel when the atmosphere has suddenly changed from a *warm* and *dry* to a *warm* and *moist* state.

Now in the course of making observations upon large bodies of men in the valley of the Rio Chagres, I remarked a prevalence of the disorders of the mucous membranes, a prevalence of catarrhs, diarrhoea and dysentery, for which I could not satisfactorily account on the supposition that they had been occasioned by temperature and malaria alone. Neither did it appear to me that in all cases they had been produced by the peculiar quality of the water and the food. I was therefore led to seek for another morbid cause, which seemed to be the humid state of the atmosphere; and this opinion is materially strengthened by the high authority just quoted. But this is not the only, or even the most important

* CHOMEL's *General Pathology*, p. 32.

cause of mucous disorders in tropical climates; for the morbid effects of heat and marsh miasmata have been too clearly pointed out by many observers.

Again, after aiding materially in the generation of malaria, moisture seems to possess the power of absorbing it. This statement is rendered probable by the well-ascertained fact, that a current of air loaded with this poison is freed from it "by passing over even a small surface of water."* By this capacity of water to absorb malaria, the minute globules suspended in the atmosphere in the form of vapor, may become saturated with it, and thus moisture may powerfully assist both in applying the deleterious agent in a more concentrated state to the external surface of the body, and in introducing it in the same state within the cavity of the lungs. It is in this manner that we may explain the proverbially noxious effects of foggy weather and night air in all malarious districts, for at such times the humidity of the atmosphere is sensibly increased. Thus the globules of moisture in the air may become bearers of malaria, as the red disks of the blood are carriers of oxygen, and thus the hygrometric state of the atmosphere may indirectly exert a powerful influence upon human health. Atmospheric moisture also renders the animal body much more sensible of the variations of external temperature; but this fact is so well stated by all writers on general pathology, and is of such secondary importance as a cause of disease on the isthmus, that it does not claim an extended notice at our hands.

With regard to the influence which the electrical conditions of the atmosphere exert in the production of disease, I regret that I have nothing to offer. Careful observers, both in this country and Europe, are convinced that electricity is an agent too powerful and too widely diffused, to be entirely destitute of influence upon human health. But the ideas on this subject are still too vague and unsettled for any useful application to our present purpose.

Diet, also, exerts an influence upon the health of many foreigners residing on the isthmus, which is too important to be entirely overlooked. Persons who come from the cold climates, where, on account of the lowness of the temperature, larger quantities of certain kinds of food are required to supply the natural waste of the system, through the force of habit are apt to consume larger

* WATSON'S *Lectures*, p. 463.

quantities of food than their new thermometrical relations demand. For a time the digestive apparatus possesses sufficient tone to effect its assimilation, but during the same period, the functions of the excreting organs are unnecessarily taxed to provide for its removal from the body. Afterwards the stomach becomes weakened, and if through the force of habit or the stimulation of the appetite by cordiments and alcoholic drinks, unnecessary quantities of food continue to be taken, a considerable portion of it may remain undigested in the alimentary canal, undergo the putrefactive process, and thus become a morbid agent. Again, people from the northern countries are disposed, through the same force of habit, to continue the use of qualities or kinds of food, (e. g. fatty substances,) equally unsuited to the new circumstances by which they are surrounded, and they will sooner or later experience the injurious consequences of so doing.

The water used to quench thirst or for culinary purposes, seems to perform only a subordinate part in the production of disease on the isthmus, except in certain localities. Perhaps, through its known affinity for malaria, which has already been mentioned, it may everywhere in that country, serve as a means of introducing the marsh poison into the economy through the stomach. But in particular localities, it is highly charged with decomposing vegetable matter, such as we find in swamps and streams nearly dried up, and seems to be productive of diarrhoea and dysentery. It is a very fortunate circumstance that water, nearly free from these impurities, can readily be obtained at most places on the isthmus.

It is scarcely necessary to mention that the observations upon which this paper is founded, were principally made at Navy Bay, Chagres, Gatun and Buyo Soldado, among laborers upon the rail-road, foreign residents and natives. At each of the places just mentioned, I saw a few persons born in the United States and Europe, who, after having remained in the country for a considerable length of time, had suffered very little from sickness. But these persons were the exceptions to the general rule, and only served to illustrate how widely the capacity of resisting the effects of morbid agents varies in different individuals.

According to all reports, Porto Bello is by far the most unhealthy town upon the Isthmus of Panama. It is said to have become almost depopulated on this account. The principal local cause for such excessive sickness, is the presence of a precipitous mountain, by which the place is in a measure walled in. By it

the free range of the wind is prevented, stagnation of the air is produced, and the atmospheric temperature and humidity are increased.

We have thus endeavored to give a general account of the diseases of Europeans and Americans on the northern side of the isthmus, and we have discussed their etiology at considerable length. In a future article we propose to take up these disorders individually, and describe their symptoms, progress and treatment.

ART. VII.—*Reduction of a Dislocated Femur, without Pulleys.*
By J. M. LITTEN, M. D.

[Communicated in a Letter to the Editor.]

MR. EDITOR: I see in the Sept. No. of the *New-York Journal of Medicine* three cases of this accident detailed by Dr. Reid; also, in the Nov. No. of the same Journal, one case by Dr. Barnard, in all of which the reduction was effected without the usual apparatus, and in the manner recommended by Dr. Reid.

The appearance of the above cases induces me to place at your disposal the notes of a case that occurred in my practice before I saw Dr. Reid's paper.

Austin, Texas, Feb. 14th, 1851. I was called to see a daughter of Mr. C., of this city, aged 4 years. I found the head of the right femur resting upon the dorsum ilii. The reduction was effected as follows: The patient being placed upon a lounge, the trunk of the body was steadied by an assistant, while I placed my foot upon the perineum of the child. Grasping the limb above the knee with my right hand, and at the ankle with my left, I operated by carrying the limb in a flexed position inward and upward, making extension with the right hand, and a slightly rotatory movement with my left, when, in a few seconds, I felt the head of the femur glide gently over the rim of the acetabulum, and resume its natural situation in the socket. No bandages were used, and the recovery was both speedy and perfect.

Austin, Texas, Dec. 27th, 1851.

PART SECOND.

CRITICAL BIBLIOGRAPHICAL NOTICES.

ART. VIII.—*A System of Operative Surgery, based upon the Practice of Surgeons in the United States, and comprising a Bibliographical Index and Historical Record of many of their Operations during a period of two hundred years.* By HENRY H. SMITH, M. D., Surgeon to St. Joseph's Hospital, Assistant Lecturer on Demonstrative Surgery in the University of Pennsylvania, etc., etc. Illustrated by numerous steel engravings. Philadelphia: Lippencott, Grambo & Co. 1852. Parts 1, 2. 8vo., pp. 220.

THIS belongs to a class of works much needed in our medical literature. He who has been engaged to any great extent in investigating the contents of American medical periodicals must have had forced home to his mind, early, the conviction that there exists in this department of our literature a vast amount of facts, which, if well arranged, would afford material possessing great practical value for the preparation of works of merit in all departments of our art. For the last half century the pen of American physicians and surgeons has been principally engaged in recording in our medical periodicals the rich and varied results of their extended experience. So much so has this been the case, that most of our eminent practitioners, departed and living, are only known in the literature of medicine by their contributions to medical journals. In the accumulated facts of half a century, then, may be found the elements which, if properly arranged, would serve in preparing works alike honorable to our science and literature. It is these considerations which lead us to hail this work as a forerunner of a harvest in every department of medicine, which ere long will be garnered by laborers, some of whom are already actively engaged in the field.

The volume before us opens with a "*History of Surgery*,"

which is in the main well written, and will interest, while it at the same time instructs, the young reader. The American portion of this history will particularly attract the attention of the student, as it is the most elaborate summary of its kind which has ever fallen under our notice. Following this is a "*biographical index of American writers on subjects connected with operative surgery, from the year 1793 to 1850, inclusive.*" This biographical index contains a list of the principal leading writings during the period specified, embracing native books, reprints, journals, and the various papers therein contained; and following this next in order comes the operative portion of the work. Part 1st, "*General and Elementary Operations;*" and Part 2d, "*Operations on the Head and Neck.*"

The work comprises all the principal operations of American surgeons, and is illustrated with numerous plates on steel, many of which are original, the greater portion, however, being excellent copies of the celebrated work of Messrs. Bernard & Huette. The copy which we have, however, lacks the distinctness of the original French work, owing to the absence of color, we presume.

The design of this volume is unique—the execution evinces a good degree of talent, and a perseverance and industry truly commendable. We look upon this effort of Dr. Smith as deserving of praise, and should the other portions of the work be finished with the same discrimination as this has been, it cannot fail to receive the general approbation of the press, and be favorably received by the whole profession. The typographical and artistical execution is all that the most fastidious could desire. The work will be issued in five parts, the remaining three of which "will" (we learn from the advertisement) "succeed each other as rapidly as is consistent with the proper execution of the plates." We shall, therefore, recur to the work again on a future occasion.

ART. IX.—*A Treatise on the Diseases of the Chest: being a Course of Lectures delivered at the New-York Hospital.* By JOHN A. SWETT, M. D., Physician to the New-York Hospital, Member of the New-York Pathological Society. New-York: D. Appleton & Co. 1852. 8vo., pp. 585.

THE comparative dearth of native treatises on the specialities of medical science has often been the subject of remark. The value

of practical, well written and digested monographs is acknowledged by all. Such works have claims, self-evident, upon the minds of the practitioner as well as the student. The lectures which make up this volume were published a number of years since in the "*New-York Lancet*." For the present occasion we perceive they have been subjected to a careful revision, and are now offered to us containing the results of the author's experience in private and public practice for the last ten years. In looking over the work (for we have as yet had time only to give it a hasty examination) we find that the author relies mainly upon his own experience and its results, drawing but sparingly upon the writings of others. This feature of the work we feel assured will, in the minds of a large portion of our readers, greatly enhance its value.

The volume contains thirty-five lectures, twenty-two of which are occupied with the "*diseases of the lungs*," and the remaining thirteen with the "*diseases of the heart*." It also contains an appendix, illustrated with two plates on steel, comprising a translation from M. Lebert's work on "*Pathological Physiology*" of the microscopic discoveries in the structure of tubercle and cancer. The type and paper of the work is *good*. We bespeak for it a liberal and praiseworthy reception.

ART. X.—*The Transactions of the American Medical Association.*

Instituted 1847. Vol. 4. Philadelphia: Printed for the Association, by F. K. & P. G. Collins. 1851. 8vo. pp. 677.

THE American Medical Association was instituted for the purpose of promoting the best interests of the profession, and in this volume we have evinced increasing evidence of its prosperity and usefulness in this respect. The several reports of this are prepared with more care than those of the preceding volumes, and the appendixes to the reports are, many of them, exceedingly valuable; while the prize essay, "*On the Corpus Leuicum of Menstruation and Pregnancy*," by Dr. J. C. Dalton, is a highly creditable contribution to Physiology, and the plates, which illustrate it, are executed in a manner which does credit to American art. Our space on the present occasion will not permit us to enter into an analysis of the practical matter of this volume. We commend it to the attention of our readers, with the full assurance that it is in an eminent degree worthy of a place on the library table of every working member of the profession.

PART THIRD.

FOREIGN MEDICAL RETROSPECT.

PATHOLOGY AND PRACTICAL MEDICINE.

On some of the Histological Characteristics of Malignant Growths.
By Prof. ALBERS, of Bonn.

1. No form of growth other than the malignant consists so exclusively, even to the acquisition of a large size, in cell-formation, all non-malignant ones containing a great abundance of fibre-formations. It may be objected that *epithelial* tumors consist of cells, and yet remain innocent. It is to be observed, however, that such tumors always remain small, and have not proved so generally innocent as the polypus and fibroid. Epithelial tumor, too, frequently relapses, and is sometimes as destructive as cancer itself. Among other innocent tumors, the *fatty* especially exhibit cells, but the regular fibrous network, which is also present, essentially distinguishes them from all malignant tumors.

2. In innocent growths the cells decrease with the duration of these, while in malignant ones they increase. At the commencement of the so-called tumors of the cellular tissue, among the predominant fibres, cells are to be seen, which at an older date are entirely absent; and the same is observed in polypus and fibroid. In malignant tumors a great number of fibres are found at first; but the longer the tumors exist and the larger they become, the more completely do such fibres disappear, leaving the cells as the sole histological element.

3. Certain peculiarities are observed in these cell-formations, among which may be mentioned the incomplete formation of the greater part of the cells, when the tumor is old and large, and especially in the case of relapsing and secondary formations. The cells exhibit either a different form, an unequal size, or an irregular degree of development. The equal development of the structural elements of polypus, fibroid or fatty tumor, furnishes an entirely different general impression from that derived from any kind of malignant tumor.

4. Besides the incompleteness and irregularity of the development of cells in malignant growths, they are found in these to undergo a rapid disintegration, examples of which, though

more frequently met with in the older tumors, are not wanting in the younger ones, showing the retrograde changes which are taking place. The elements proving this, are granules, granular bodies, and granular cells; and these are to be found in a greater or less number in every cancerous tumor proportionate to its age. If, on the other hand, we consider the regular and unchanged condition of the cells in fatty tumors or polypus, in which scarcely any granular bodies or cells are found, it becomes certain that the duration of the life of a cell is much longer in innocent than in malignant tumors.

5. Malignant tumors are remarkable for the rapidity of their cell growth. In a few days an entire lung may undergo tubercular transformation, or a cancerous tumor acquire double its size. A relapse may occur in five or six days, and a few days later may attain enormous dimensions. No innocent tumor comport itself thus.

6. In malignant swellings we always find a more abundant juice, which flows out on pressure, and contains some of the elements of the disease, as the cells, and the same fluid blastema is obtainable from tubercular lungs. When fluid is pressed out from a polypus, it contains no cells or fibres, or very few, while in that obtained from cancer there are numerous cells in every stage of development. It follows from this, that the textural connection in the malignant tumor is always looser, and the proportion of fluid blastema always larger, than in the innocent; and that these slightly connected elements are easily separable, and are incapable of the degree of development observed in the innocent, being, therefore, endowed with a shorter duration of life than these.

It results from the above observations, that there is less *vital energy and durability* in malignant growths, as is shown by the fewer stages of development they are capable of; and by the great disposition of the cells to terminate their life, and to pass into granular bodies and granule-cells. This retrograde course explains the inordinate increase of cells, just as we see an immense reproductive power in animals placed low down in the scale. The lower its vital energy sinks, the more rapidly does the growth increase, so that the second or third relapse takes on a much larger and more rapid development than did the original tumor—a point well deserving the attention of the operator, lest, by his interference, he lowers the amount of vital energy, and hastens death more rapidly than it would have occurred had the case been left to nature. It is to this diminution of vital activity, that the peculiar softening of these tumors is due. In the softened mass are found the elements of the degenerated structure with incompletely formed pus globules; and when the vital power is increased, and, as in tubercle, stationary condition of the disease produced, a more complete pus formation takes place.—*Brit. and For. Rev., from Canstatt's Jahrb., 1850, v. 248.*

Practical Propositions respecting the Diagnosis of Phthisis. By Prof. W. H. WALSHE, of London.

(a.) A young adult who has had an obstinate cough, which commenced without coryza, and without any obvious cause, a cough at first dry, and subsequently attended for a time with watery or mucilaginous looking expectoration, and who has wandering pains about the chest, and loses flesh, even slightly, is, in all probability, phthisical. (b.) If there be hæmoptysis, to the amount of a drachm even, the diagnosis becomes, if the patient be a male, and positively free from aneurism or mitral disease, almost positive. (c.) If, in addition, there be slight dullness under percussion at one apex, with jerking, or divided and harsh respiration, while the resonance at the sternal notch is natural, the diagnosis of the first stage of phthisis becomes next to absolutely certain. (d.) But not absolutely certain; for I have known every one of the conditions in *a*, *b*, and *c*, exist (except hæmoptysis, the deficiency of which was purely accidental,) when one apex was infiltrated with encephaloid cancer, and no cancer had been discovered elsewhere to suggest to the physician its presence in the lung. (e.) If there be cough such as described, and permanent weakness and hoarseness of the voice, the chances are very strong (provided he be non-syphilitic) that the patient is phthisical. (f.) If decidedly harsh respiration exist at the left apex, or at the right apex behind; if the rhythm of the act be such as I have called *cogged-wheel*, and there be dullness, so slight, even, as to require the dynamic test for its discovery, there can be little doubt of the existence of phthisis. (g.) If, with the same combination of circumstances, deep inspiration evokes a few clicks of dry, crackling ronchus, the diagnosis of phthisis, so far as I have observed, is absolutely certain. (h.) If these clicks, on subsequent examination, grow more liquid, the transition from the first to the second stage may be positively announced. (i.) If there be slight flattening under one clavicle, with deficiency of expansion-movement, harsh respiration, and slight dullness under percussion, without the local or general symptoms of phthisis, the first stage of tuberculisation cannot be diagnosed with any surety, unless there be incipient signs at the left apex also; the conditions in question, limited to one side, might depend on chronic pneumonia or on thick induration matter in the pleura. (k.) The existence of limited though marked dullness under one clavicle, with bronchial respiration and pectoriloquy, so powerful as to be painful to the ear, the other apex giving natural results, will not justify the diagnosis of phthisis. I have known this combination when the apex of the lung was of model health, and a fibrous mass, the size of a walnut, lay between the two laminæ of the pleura. I would even go farther and say, that the combination in question is rather hostile than otherwise to the admission of phthisis, as, had tuberculous excavation formed at one side, the other lung would, in infinite probability, have been affected in au

earlier stage. (*l.*) Pneumonia limited to the supra and infra-clavicular region on one side, and not extending backwards, is commonly, but not always, tuberculous. (*m.*) Subcrepitant rônchus, limited to one base posteriorly, is not, as has been said, peculiar to tubercle; it may exist in emphysema, and in mitral disease. (*n.*) Chronic peritonitis, in a person aged more than fifteen years, provided cancer can be excluded, involves, as a necessity, the existence of tubercles in the lungs. To this law of Louis' it is necessary to add the qualification, provided Bright's disease be also absent. (*o.*) Pleurisy with effusions, which runs a chronic course in spite of ordinary treatment, is, in the majority of cases, tuberculous or cancerous: the character of the symptoms, previously to the pleurisy, will generally decide between the two. (*p.*) Double pleurisy, with effusion, is not, as has been said, significant of tubercle; for it may depend on Bright's disease. If the latter disease can be excluded, carcinoma and pyohæmia remain as other possible causes. (*q.*) If a young adult, free from secondary syphilis and spermatorrhœa, and not dissolute in his habits, speedily lose flesh without clear cause, he is, in all probability, phthisical, even though no subjective chest-symptoms exist. (*r.*) But he is not by any means certainly so, for he may have latent cancer in some unimportant organs, or he may have chronic pneumonia. (*t.*) Nay, more, he may steadily lose weight, have dry cough, occasional diarrhœa, and night sweats, and present dullness under percussion, and bronchial respiration under both clavicles, and yet be non-phthisical. I have known all this occur in cases, both when the lungs were infiltrated superiorly with primary encephaloid cancer, and when they contained secondary nodules of the same kind. (*u.*) Failure of weight becomes less valuable as a sign of phthisis, the longer the thirtieth year has been passed. (*v.*) The discovery of cardiac disease with marked symptoms, deposes against, but does not exclude, the existence of active tuberculisation. (*w.*) The existence of cancer in any organ is unfavorable to the presence of tuberculous disease, but tubercle and cancer *may* coexist, even in the same lung.—*Diseases of the Lungs and Heart.*

SURGERY AND SURGICAL PATHOLOGY.

On a Novel Method of Treating Diseased Joints. By MR. GAY.

[The following synopsis of a paper read before the Medical Society of London, Nov. 15th, 1851, bears so close an analogy on a mode of treatment set forth in previous numbers of this Journal, that we are constrained to copy it entire, as we find it in a late number of the *London Medical Gazette*.—*Ed. N. Y. Jour. Med.*]

MR. GAY commenced his paper by observing, that to the present time there was no department of surgery in which the powers of art have been comparatively so feeble as when applied to the relief of those diseases of the joints, which, from their results, might be termed destructive. Hence, let the articular surfaces of the joint be bereft of their cartilages, a sinus or two be formed

around it, and the health of the patient show symptoms of exhaustion, and the joint, and probably the whole limb, is doomed to amputation. He adverted to the causes of the removal of the cartilage from joints, and gave it as his opinion, that in addition to primary synovial and osseous disease, the cartilages were sometimes removed by absorption, in consequence of degeneration of their own tissue, without any traceable affection of the contiguous textures. In all cases of removal of cartilage the tissue degenerates into a kind of fibrous texture, antecedent to the final process; and as portions of cartilage were sometimes observed to be removed without any apparent disorder of either the synovial or osseous surfaces, and, moreover, as cartilage was known to be inadequate to its own repair, Mr. Gay thinks it most probable that the portions of cartilage so removed had first spontaneously degenerated, and then become absorbed. Mr. Gay went on to remark, that if a series of joints be examined in which the removal of the cartilages is taking place, the appearances will be as follows:—If it be presumed to follow disease of the synovial capsule, the cartilage will be found in some to maintain its connection with the bone, whilst it is thinned by absorption at its free surface. In others, however, the bone is found inflamed at various points of its connection with the cartilage; and at these points the cartilage is loose, and may be peeled off, so that portions of thin attached and unattached cartilages are found in the same joint. When entirely denuded, or almost so, the surfaces of the bones may exhibit simply a state of increased vascularity, which precedes the effusion of plastic lymph for the purposes of reparation by anchylosis, or may be observed to be in a condition of ulceration. This ulceration may exist as a simple abrasion, or be of considerable depth; but there is generally a uniformity in this respect over the whole surface. With this state of ulceration there is also a softening of the osseous structure, and frequently disintegration; the contents of the joint consisting of broken up cartilage, and osseous and other debris together, or osseous matter, with ichorous or sanious discharge. When the disease originates in the bone, as in by far the greater number of cases, in Mr. Gay's opinion, it does, the separation of the cartilage is effected by another process, which he terms "shedding," and the cartilage is then reduced to the condition of a foreign body within the joint. Shreds of cartilage thus situated in a joint may be observed after months and even years of disease; and as, on the other hand, its separation from the articular extremity of the bones may be accomplished in an almost incredibly short period of time, it is fair to infer that the time thus passed must have been occupied in the process of its extrusion from the joint, and that this is accomplished, neither by ulceration nor absorption, but disintegration by, and solution in, the discharges of the joint. But the bone itself being diseased, adds its exfoliated or disintegrated particles to the cartilaginous debris, which, with its own discharges, constitute generally the contents of a joint in which the disease com-

menced in its bony elements. The result of these discharges is to set up inflammation in the sound textures contiguous to the joint, and general systemic irritation. Sinuses form around the joint; the disease extends itself; the ligaments become ulcerated; the spongy tissue of the bones infiltrated with pus, and broken down; osteophytes form around the heads of the bones; abscesses extend themselves into the surrounding soft parts, separating the different structures, and setting up unhealthy and destructive action amongst them; and, in short, a climax is arrived at in which the local mischief reacts upon the constitution, and life is only to be preserved at the sacrifice of the joint or of the limb. Mr. Gay inferred from these remarks, of which only an imperfect abstract has been given—

1. That there appears to be no reason why disease effecting the constituents of a joint should be slower in their course of reparation than diseases of any other part or structure.

2. That the removal of cartilage from its osseous connection in a joint is occasionally effected by absorption, but most frequently by a process of "shedding," or exfoliation.

3. That cartilages thus shed become, by their being pent up in a joint, sources of local and constitutional irritation, and thus promote disease in the osseous and other structures appertaining to a joint, supposing that such affections do not exist primarily; and in case they do, these cartilages, by the same influence, maintain and extend these diseases also.

4. That the natural outlets for these discharges, the sinuses, are inadequate for that purpose.

5. That therefore the exfoliated contents of a diseased joint have to be minutely broken up by, or dissolved in, the discharges of the joint, in order to their removal; processes which are necessarily of a very protracted order, and which account for the tardiness in general characteristic of joint diseases.

6. That the exfoliated contents of a joint, after its cartilages have been removed, and even after extensive diseases has been set up in the bones and other textures, have only to be completely removed, and processes of reparation will, in the majority of instances, immediately commence.

Mr. Gay then alluded to the usual modes of treatment, and remarked, that the operation of resection of a joint is not only a useless but an unphilosophical mode of treatment for diseased joints. In the first place, primary disease is generally limited to one of the articular extremities of the joint; it is therefore a useless mutilation to remove more than that disease, supposing the operation were for a moment admissible. But, moreover, dissections show that disease originating in bone, when arrived at that stage at which the operation of resection is generally employed, has extended itself far beneath the surface, and frequently along the shaft for a third of its whole length, so that resection cannot accomplish its purpose, which must be manifestly the removal of all disease. The plan Mr. Gay recommends, then, is

Free and deep incisions made along each side of a joint, so as to lay open its cavity freely, and to allow of no discharges being by any possibility retained within its cavity. They should be made of such a length, and so treated, that they do not heal into the form of sinuses. They should be made, if possible, one on either side of the joint, and in the direction of the long axis of the limb. They should extend into the abscesses in the soft parts so as to lay them open. If sinuses exist, the incisions should be carried through them, if this can be done without departing from a slight curve. If either of the bones be carious or necrosed, the incisions should be carried deeply into such bones, so as to allow the dead particles of bone to escape. Ligaments which stand in the way of a free discharge from the joint should be cut through. Of course important vessels should be avoided. The wounds should be kept open by pledgets of lint, and free suppuration encouraged. The constitutional powers have in each case rallied immediately after the operation; and as the discharges from the joint have altered in character and become healthy, which they in general do in the course of two or three weeks, these become invigorated, and improve with the improving joint. Mr. Gay then narrated some cases in corroboration of his views: Peter D—, aged thirty-eight, admitted into the Royal Free Hospital in 1842 for diseased elbow joint of three years' standing, with ulceration of the cartilages and sinuses. The joint was opened on either side, and healed in eleven weeks. The next was a case of disease in the articulation between the first and second phalanges of the thumb of eighteen months' standing. Cured in six weeks. The third case was that of a man with "long-standing" disease of the tarsal articulation. One sinus led to the interior of the joint. Incisions were made on each side of the foot, and complete ankylosis followed. The fourth case was that of a little boy with strumous constitution, with disease of the knee-joint consequent upon suppuration of the bursa behind that joint. The little fellow was reduced by fever to a very low ebb, so that bed-sores formed on parts of his body. The joint was opened; ankylosis took place at the end of four months, and the knee bent on the thigh. The fifth case was that of a German, with disease of the wrist joint, which had resisted treatment. One sinus led into it. One incision was made at the back of the joint, and ankylosis followed, but was not observed to be perfect for six months. The sixth case was that of a young Irishwoman, with disease of the tarsal articulation, following upon traumatic erysipelas of the leg and foot. She was reduced to an exceedingly low condition, and from cough with bloody sputa, night sweats, (according to Dr. Heale,) the physical symptoms of the chest, and extreme emaciation, she was supposed to be phthisical, and so diseased, that amputation, which was supposed to be the only remedy for the disease, so far as the joint was concerned, was forbidden by the authority of Dr. Heale. Mr. Gay made an incision on either side of the foot in this case, and the change both in the joint and con-

stitution was remarkable. Her health rallied from that moment, and the joint assumed a more healthy aspect. In a fortnight the joint was fixed by the exudation of lymph between the bony surfaces, and in five weeks perfect ankylosis had taken place, and the wounds had healed. She soon after left the hospital, and was, a week or two since, to Mr. Gay's knowledge, in perfect health. The seventh case was that of Highley, a report of which has been published. The eighth case was that of a little boy with disease of the articulation of the first and second phalanges of the thumb. In this case the cure was not accomplished. The incisions resolved themselves into sinuses, and after several months the necrosed phalanx came away."

Easy mode of Reducing a Dislocated Femur. By Dr. MAYR. —Dr. Fischer, of Cologne, published in *Casper's Wochenschrift*, November 1, 1849, an account of his mode of reducing dislocation of the femur, and which consists in flexing the femur to an acute angle with the trunk, and impressing upon it gentle rotatory movement while in a state of adduction if dislocated on to the pubes, and of abduction if dislocated on to the ilium. Dr. Mayr, without being then aware of this procedure of Dr. Fischer, resorted to it in a case that occurred lately to himself. A man, aged 31, dislocated his right femur upwards and backwards; and after repeated attempts at reduction, even by the pulleys, had been made, the author was called in on the 13th day after the accident. After he had in vain tried the ordinary plan of extension and counter-extension, he resorted to the following means. The opposite limb and the pelvis were fixed, the operator flexed the femur upon the trunk, and, passing one arm under the ham while he grasped the calf with the other, he imparted rotatory movements of gradually increased strength to the limb. As soon as he perceived a greater mobility of the head of the femur, he brought the limb into a state of strong abduction; and when, still continuing the rotation, the head had approached the acetabulum, he was able, by a rapid and strong pull inwards, to slide it into its pan, which it entered with a loud noise. The gentle rotatory movements mentioned by Fischer did not succeed here, all his force being required in their production, which may be probably due to the time the bone had remained unreduced.

The anatomical structure of the parts also recommends this procedure. In front of the thick edge of the acetabulum, the under surface of the ilium forms a perceptible depression, and if the directions given in the manuals are followed, of making the traction obliquely from outwards inwards, and somewhat from behind forwards, be followed, the head of the bone must meet in this depression with a considerable obstacle to its progress. This sometimes even invincible obstacle appears to be avoidable by resorting to abduction.

Aneurism treated by Compression, with Remarks on the Post-Mortem Appearances presented in a Subject in whom two Popliteal Aneurisms had been so treated four years previously; and a Table of the Cases in which Compression has been successfully employed since 1842. By C. B. BELLINGHAM, M. D., Surgeon to St. Vincent's Hospital.

[The following observations on a case of aneurism we copy from the *Dublin Medical Press* for Dec. 3d, 1851. They were read before the Surgical Society of Ireland on the 22d of Nov. last, and are worthy of a careful perusal. *Ed. N. Y. Jour. Med.*]

These pathological specimens illustrate in the one limb the mode in which compression effects the cure of aneurism, and in the other, the subsequent changes which ensue by which the recurrence of aneurism at the same part of the artery is effectually prevented.

This patient lived above four years after the treatment of the two aneurisms in opposite limbs; upon the side that the aneurism had been cured, and where, after the cure, a solid hard tumor, of the size and shape of a racket-ball, marked the site of the aneurismal sac, we now find no remains of an aneurismal sac, the sac and the artery at the part are consolidated into one, and merely a solid rounded ligamentous cord marks the site of the aneurism and of the part of the obliterated popliteal artery from which it sprung.

In the opposite limb where the compression was kept up for a much shorter period, and where the aneurism did not cease to pulsate, we find the aneurismal sac greatly diminished in size, its walls very thick, its interior nearly filled by fibrine, and the artery at the part not obliterated, but permitting a current of blood still to pass through it.

On previous occasions, I have had the opportunity of exhibiting to the members of the Society preparations illustrating the results of compression for the cure of aneurism from subjects who died of other diseases, either subsequent to the cure of the aneurism or before the pulsation had ceased. The present differs from any hitherto recorded, and is, perhaps, more important, as it bears upon a point which we had not the opportunity of determining heretofore, while it tends, as much as any single case can, to confirm all that has been said of the advantages of this method of treating aneurism.

In the details of this case, I have said that, after compression had been employed for a time upon the right lower extremity, it was discontinued before the pulsation of the aneurism had ceased, in consequence of the patient being obliged to return to his employment. Notwithstanding that the pulsation continued, the tumor not only did not increase subsequently, but actually diminished in size, although the patient had to work at a very laborious employment, in which he was obliged to lift and carry heavy weights; and during upwards of four years that intervened be-

tween the period at which the pressure was discontinued and the patient's death, it never caused the slightest inconvenience, and he continued to work until the enlargement of the thoracic aneurism compelled him to desist.

The post-mortem examination shows why this was so; we find the aneurismal sac contracted and diminished in size, its parietes much thickened, and its cavity in great part filled up by fibrine deposited in concentric layers. A small portion of its interior still permitted the entrance of the blood which passed down the popliteal artery, the pulsation of which communicated to the sac gave the impulse which was felt at the part during the patient's life.

It is a point of some interest to determine whether an external aneurism can be considered to be cured, although the channel of the artery at the seat of the disease is not obliterated, and a current of blood continues to pass through the vessel. We know that when aneurism of the arch of the aorta undergoes a spontaneous cure, the sac alone is filled up, while the artery for an obvious reason continues pervious afterwards. Now, the examination of this preparation, combined with the history of the case, afford evidence that popliteal aneurism may be so far cured that the sac can scarcely enlarge again, although there is no obliteration of the artery at the seat of the disease, and likewise that this desirable result may be brought about by making compression upon the artery on the cardiac side of the sac.

The cause of the enlargement of an aneurismal sac in any situation is evidently the distension from within, caused by the impulse communicated to the blood by the systole of the left ventricle. If this distension can be diminished, or prevented altogether, the aneurismal sac cannot enlarge, but it will, on the other hand, rather diminish in size. Now, by making pressure upon the artery leading to an aneurismal sac, we can take off this distension, and render the sac quite flaccid, and by continuing the compression we can maintain the sac in this state for an indefinite length of time. Moreover, when the current of blood through the sac is materially diminished in force, velocity and volume, another agent almost always comes into operation, the fibrine of the blood in its passage through the sac is deposited upon its interior, by which the parietes of the sac are still further strengthened.

It would appear, indeed, from the results of one or two cases, where the disease was of very recent origin, that when compression upon the artery above is steadily maintained, the aneurismal sac may gradually shrink until reduced to a very small size; and if the precaution is taken of not allowing a full current of blood to pass down the artery for a certain period, the remains of the shrunken aneurismal sac ultimately are scarcely to be felt, particularly if its site was the popliteal space or Hunter's canal, where the vessel lies at some distance from the surface.

It can scarcely then, I think, be doubted, that aneurism in an

extremity may be so far cured that it can neither enlarge again nor give way, although the blood continues to pass through the artery from which it springs, and an impulse continues to be felt at the part, owing to the pulsation of the artery being communicated to the sac. In the present case, there was an interval of above four years between the discontinuance of compression and the death of the patient, during which time, although the pulsation continued, the patient was able to follow a laborious employment, and never suffered the slightest inconvenience from the aneurism. Indeed, it is not improbable that the femoral artery has been unnecessarily tied in some cases, at least under similar circumstances, where, if a little delay had been permitted, it would have been found that the aneurism had no disposition to increase in size.

Before dismissing this subject, I may allude to a strange admission made by an Edinburgh reviewer in a notice of Mr. Tuffnell's work and mine, in the July number of the *Edinburgh Medical and Surgical Journal*. The writer confesses to be unable to comprehend the distinction between the process by which the deposition of fibrine and the formation of a coagulum in an aneurismal sac take place.

"There is a strong temptation (the writer says, p. 227) to ask what is the difference between causing the coagulation of the contents of an aneurismal sac and the deposition of fibrine within the sac? Is fibrine deposited without coagulation? Is not the deposition of fibrine a species of coagulation? If coagulation take place, is fibrine not deposited? We must admit our inability to perceive the distinction here attempted to be made. If the contents of an aneurism are coagulated, we think that the deposition of fibrine has either already taken place, or must speedily follow. All this, nevertheless, we submit in deference to Dr. Bellingham, who, probably, has some mode of showing the difference between the two processes."

I should have thought that no one who had had the opportunity of examining cases of aortal aneurism could have failed to perceive the difference between the laminæ of fibrine which line the interior of the sac and the loose coagula of blood which occupy its center; or could have supposed that there was any analogy between the processes by which they are developed; the former being the result of a vital process which had been carried on during the patient's life, the latter a mere post-mortem occurrence, the result of the stagnation of the blood after the circulation has ceased.

Indeed, I do not believe that pressure upon the artery leading to an aneurism by the instruments ordinarily in use can cause the coagulation of its contents; and when coagulated blood is found in the sac after death, I look upon it as a post-mortem appearance. But if we had no other evidence, the preparations upon the table prove that the deposition of fibrine in an aneurismal

sac will be brought about by applying compression to the artery above. We know, too, that when this deposition of fibrine begins to take place, the sac, which before was readily emptied of its contents, and became flaccid when compression was made upon the artery above, now no longer does so, while its outline becomes distinct. We know, likewise, that this desirable result may ensue within a few hours from the commencement of the treatment, and that when it does occur it is a most favorable sign, as it indicates that the process by which the aneurism is to be cured has been set up in it.

It is not necessary to delay further upon this point; I have alluded to it, because I believe the writer in the *Edinburgh Medical and Surgical Journal* is by no means singular in his opinion; as the two substances, fibrine and coagulated blood, although so unlike one another in appearance, are continually confounded under the same name, and much inconvenience necessarily is the result of such a loose nomenclature.

The preparation from the opposite limb of this patient, in which the aneurism had been cured, is also of some interest, as being an additional example of the subsequent changes which ensue after the cure by compression, by which Nature effectually prevents the recurrence of aneurism at the same part of the vessel; as well as because it shows in some degree within what period these changes are brought about. The treatment of the aneurism in this limb was, as I have remarked, rather tedious, extending over a period of three months; after the cure, the site of the aneurismal sac was marked by a very solid hard tumor, resembling a racket-ball in shape and feel—a proof that the sac was filled with solid fibrine. About three years subsequently, upon a careful examination of the limb, no trace of this tumor remained; and now, after four years, we find that the aneurismal sac and the fibrine with which it was filled, have been entirely absorbed, and merely a solid ligamentous cord marks the site of the obliterated popliteal artery and aneurismal sac.

The last point illustrated by this preparation to which I wish to call attention is the condition of the femoral vein. It will be seen that this vein, throughout its whole course in the thigh, as well at the points at which the compression had been made, as at those where no pressure had been applied, preserves its natural healthy appearance; its valves are sound, there is no thickening of its coats, and no alteration of any kind is perceptible either upon its exterior or in its interior. Now, the treatment of the aneurism in this limb extended, as I have said, over a period of about three months, viz., from the middle of October to the middle of January; and during much of that time the pressure was made upon the middle and lower third of the thigh, where the artery and vein are very closely united, and the latter was of course necessarily compressed with the former.

It has been gravely proposed that in using pressure for the cure of aneurism, the pad of the compressing instrument should

be so applied as to avoid making pressure on the femoral vein ; any one, however, who has dissected the parts, must know that this would be utterly impracticable, and every one who has tied the femoral artery knows that one of the chief difficulties in the operation consists in avoiding injury to the vein in consequence of its close proximity to the artery ; indeed, Mr. Porter has shown that, in cases of popliteal aneurism, "the femoral vein is always more closely adherent to the artery than in the healthy subject ;" and this is evidently the case in the preparation before us.

I have myself had the opportunity of examining the condition of the femoral vein after the cure of popliteal or femoral aneurism by compression in several instances in addition to the present ; and in none did this vein present the slightest change, proving that it bears pressure equally as well as the artery, and that if the treatment is properly conducted neither vessel can suffer any injury from the compressing instruments.

In a paper which I read before the Society on a former occasion, I gave a list of the cases of aneurism which had been treated by compression up to the date of that communication. As it may not be without interest to follow up this subject, I have drawn up the following table of the cases that have been published, where this method of treatment has proved successful, commencing with the case of popliteal aneurism treated by Dr. Hutton in the Richmond Hospital in October, 1842, and bringing it down to the present day ; distinguishing the cases according to the situation of the aneurism, and giving under separate heads the age, sex and occupation of the patient, the name of the hospital or other locality where the treatment was conducted, the name of the surgeon who had the management of the case, and of the journal in which it was published, with the result, and occasional observations.

It will be seen that the following table includes fifty-four cases of popliteal and femoral aneurism, viz., forty of popliteal, and fourteen of femoral ; three cases of brachial aneurism, and four of radial or ulnar aneurism. I have not admitted any case into this list where the patient was not *cured*, and did not live for some years afterwards. I am aware that it does not include every case which has occurred during the period in question, as some have not been published, and perhaps a few others have escaped my notice, or have appeared in journals to which I had not access.

Mr. Tufnell observed, that the value of compression as a means of curing aneurism was well illustrated by the interesting case narrated by Dr. Bellingham. During the progress of the treatment, he had frequent opportunities of seeing the patient ; and the conclusion he drew from the case was, that it afforded an additional assurance to the surgeon that, although he might sometimes be foiled for a while in treating aneurism by compression, yet he would not on that account be obliged to resort at once to the ligature, unless the sac of the aneurism manifested a disposition to increase.

List of Cases of Popliteal Aneurism successfully

No.	Surgeon's Name.	Sex.	Age.	Occupation.	Where treated.
1	Hutton.	Male.	30	Laborer.	Richmond Hospital.
2	Cusack.	Male.	55	Tanner.	Steevens' Hospital.
3	Bellingham.	Male.	82	Servant.	St. Vincent's Hospital.
4	Harrison.	Male.	29	Carpenter.	Jervis-street Hospital.
5	Kirby.	Male.	28	Baker.	" " "
6	Allan.	Male.	32	Seaman.	Haalar Hospital.
7	Cusack.	Male.	26	Gentleman.	At patient's residence.
8	Greatrex.	Male.	27	Soldier.	Regimental Hospital.
9	Porter.	Male.	29	Tailor.	Meath Hospital.
10	Porter.	Male.	20	Medical man.	" " "
11	Jolley.	Male.	38	Laborer.	Torbay Dispensary.
12	Ferrall.	Male.	32	"	St. Vincent's Hospital.
13	Macdonnell.	Male.	32	"	Richmond Hospital.
14	Dartnell.	Male.	38	Soldier.	General Hospital, Fort Pitt.
15	Cusack.	Male.	33	Medical man.	Steevens' Hospital.
16	Humfrey.	Male.	43	Soldier.	Mil. Infirmary, Phoenix Park.
17	Storka.	Male.	32	Tailor.	At patient's residence.
18	Ferrall.	Male.	37	"	St. Vincent's Hospital.
19	Storka.	Male.	24	Brewer.	At patient's residence.
20	O'Brien.	Male.	34	Butcher.	Adelaide Hospital.
21	Armstrong.	Male.	26	Sailor.	Naval Hospital, Plymouth.
22	Tufnell.	Male.	27	Sawyer.	At patient's residence.
23	Cusack.	Male.	30	"	Steevens' Hospital.
24	Tufnell.	Male.	28	"	At patient's residence.
25	Hutton.	Male.	32	"	" "
26	Banon.	Male.	27	Laborer.	Jervis-street Hospital.
27	Bellingham.	Male.	44	"	St. Vincent's Hospital.
28	Rodgers.	Male.	47	Sailor.	New-York Hospital.
29	Mütter.	Male.	41	Bookkeeper.	" "
30	Knight.	Male.	48	" "	" "
31	Hosack.	Male.	55	" "	" "
32	Paget.	Male.	27	Surgeon.	" "
33	Thompson.	Male.	30	Boatman.	Tyrone Infirmary.
34	Ward.	Male.	45	Lighterman.	London Hospital.

treated by Compression, between 1842 and 1851.

Where reported.	Result.	Observations.
Dublin Medical Press.	Cured.	This patient subsequently labored under femoral aneurism in the opposite limb, which was also cured by compression. He died of aortal aneurism.
" " "	Cured.	
" " "	Cured.	
Reporter British Association.	Cured.	This patient has since died of cerebral disease.
Dublin Medical Press.	Cured.	
Lancet.	Cured.	
Dublin Medical Press.	Cured.	
Proc. Medico-Chirurgical Society.	Cured.	This patient died subsequently of aortal aneurism.
Dublin Quarterly Journal.	Cured.	
" " "	Cured.	
Provincial Medical Journal.	Cured.	This patient had been operated on some years previously for popliteal aneurism in the opposite limb.
Dublin Hospital Gazette.	Cured.	
Dublin Medical Press.	Cured.	
London Medical Gazette.	Cured.	This patient had aneurism in the opposite limb, and has died since of aortal aneurism.
Dublin Quarterly Journal.	Cured.	
Dublin Medical Press.	Cured.	
Lancet.	Cured.	
Dublin Quarterly Journal.	Cured.	
Lancet.	Cured.	
Dublin Medical Press.	Cured.	
Lancet.	Cured.	In this case the compression was made directly upon the aneurismal sac.
Dublin Medical Press.	Cured.	Nos. 22 and 24 refer to the same patient; he subsequently labored under femoral aneurism, which was also cured by compression.
Dublin Quarterly Journal.	Cured.	
Dublin Medical Press.	Cured.	In this case compression was made for seven hours and a half, when the pulsation ceased.
" " "	Cured.	
" " "	Cured.	In this case the pulsation ceased after compression had been maintained for twenty-three hours.
Proc. Medico-Chirurgical Society.	Cured.	
Trans. Amer. Med. Association.	Cured.	The compression was made in this case by the fingers of relays of assistants.
" " " "	Cured.	
" " " "	Cured.	
New-York Journal.	Cured.	In this case the artery had been tied some time previously, but pulsation had returned in the sac.
London Medical Gazette.	Cured.	
Medical Times.	Cured.	
Lancet.	Cured.	

List of Cases of Popliteal Aneurism successfully

No.	Surgeon's Name.	Sex.	Age.	Occupation.	Where treated.
35	Bennett.	Male.	30	Blacksmith.	London Hospital.
36	Wood.	Male.	33	Carman.	Bellevue Hospital.
37	Wood.	Male.	30	Carpenter.	" "
38	Humphrey.	Male.	24	Sailor.	Addenbrooke's Hospital.
39	Allan.	Male.	27	Pensioner.	Naval Hospital, Haslar.
40	Ward.	Male.	36	Ostler.	Huntingdonshire Infirmary.

List of Cases of Femoral Aneurism successfully

1	Liston.	Male.	30	Tinworker.	University College Hospital.
2	Liston.	Male.	53	"	"
3	Bellingham.	Male.	33	Servant.	St. Vincent's Hospital.
4	Mackern.	Male.	30	Master of canal boat.	" "
5	Humfrey.	Male.	31	Soldier.	Mil. Infirmary, Phoenix Park.
6	Smyley.	Male.	48	Schoolmaster.	Meath Hospital.
7	Tufnell.	Male.	29	Sawyer.	City of Dublin Hospital.
8	Colles.	Male.	29	Glassblower.	Steevens' Hospital.
9	Hargrave.	Female.	23	Dressmaker.	City of Dublin Hospital.
10	Watson.	Female.	38	"	New-York Hospital.
11	Parratt.	Male.	38	Soldier.	Ord. Hospital, Woolwich.
12	Briscoe.	Male.	22	"	" " "
13	Watson.	Male.	30	Farmer.	New-York Hospital.
14	Dartnell.	Male.	35	Soldier.	Regt. Hospital, Chatham.

List of Cases of Brachial Aneurism

1	Cusack.	Female.	40	Farm servant.	Steevens' Hospital.
2	Hutton.	Male.	34	" "	Richmond Hospital.
3	Johnston.	Male.	34	Blacksmith.	" "

List of Cases of Radial or Ulnar Aneurism

1	Crampton.	Male.	11	Blacksmith.	At patient's residence.
2	Syme.	Male.	30	"	" "
3	Velpeau.	Male.	30	Coachguard.	La Charité.
4	Hewett.	Male.	30	" "	St. George's Hospital.

treated by Compression, between 1842 and 1851.

Where reported.	Result.	Observations.
New-York Journal.	Cured.	In this case the pressure was made directly upon the tumor.
" "	Cured.	
" "	Cured.	
Provincial Medical Journal.	Cured.	In this case the pulsation ceased after compression had been maintained for fifteen hours.
Lancet.	Cured.	
Provincial Medical Journal.	Cured.	

treated by Compression, between 1842 and 1851.

Lancet.	Cured.	This patient, who labored under popliteal aneurism in the opposite limb, which was likewise cured by compression, died subsequently of aortal aneurism.
"	Cured.	
Dublin Medical Press.	Cured.	
Lancet.	Cured.	This patient died suddenly three years afterwards, probably of internal aneurism.
Dublin Medical Press.	Cured.	
" " "	Cured.	
Treatise on compression.	Cured.	This patient labored under popliteal aneurism in both limbs previously, which had been cured by compression.
Dublin Quarterly Journal.	Cured.	
" " "	Cured.	
Trans. Amer. Medical Association.	Cured.	
Lancet.	Cured.	
"	Cured.	
New-York Journal.	Cured.	
Medical Times.	Cured.	

successfully treated by Compression.

Treatise on compression by Mr. Tufnell.	Cured.	Traumatic aneurism from gunshot wound.
Dublin Medical Press.	Cured.	Traumatic aneurism from wound in venesection.
American Medical Journal.	Cured.	Traumatic aneurism from wound in venesection.

successfully treated by Compression.

Dublin Medical Press.	Cured.	Traumatic aneurism of the radial from wound.
Edinburgh Monthly Journal.	Cured.	Non-traumatic aneurism of the radial.
Gazette des Hôpitaux.	Cured.	Traumatic aneurism of the radial from wound.
Proc. Medico-Chirurgical Society.	Cured.	Traumatic aneurism of the ulnar, the result of a wound.

PART FOURTH.

COMMUNICATIONS AND

AMERICAN MEDICAL RETROSPECT.

On the claims of Priority in the Exsection and Disarticulation of the Lower Jaw. By GEORGE C. BLACKMAN, M. D., Fellow of the Royal Medical and Chirurgical Society of London.

Although nearly half a century has passed since Dr. Deadrick, of Tennessee, excised a portion of the lower jaw, and though some twenty-one years have elapsed since the publication of its details, in one of the leading medical Journals of this country, we observe that surgical writers are still almost constantly guilty of misstatements whenever they attempt to give the history of this operation. We believe that no surgeon on the continent of Europe has ever done justice to the claims of Dr. Deadrick, but in Great Britain they have, at least, been most honorably acknowledged. (Vid. SOUTH'S CHELIUS, vol. iii. p. 745.) The profession in this country have doubtless seen with surprise the attempt lately made by an *American Professor of Surgery*, to surrender the honor so justly due to *American surgery*. We think this *Professor* would blush to own his ignorance of the existence of such a publication as the "*American Medical Recorder*," and we know not what apology he can offer for the erroneous statements contained in the following extract from his report of an operation which he performed, for the removal of the *entire* lower jaw, published in the January number of the *New-York Journal of Medicine*:

"To Dupuytren was reserved the glory of having, in 1812, first removed, by a methodical operation, a portion of the body of the inferior maxilla; *but since the innovation of the celebrated French surgeon*, (the italics are our own,) the operation for the partial exsection of this bone has been repeatedly performed."

Now, we would respectfully ask the author of the above, why was not the operation of Dr. Deadrick, in 1810, "a methodical operation?" *Perhaps*, however, Prof. Carnochan has never seen Dr. Deadrick's report of it in the *American Medical Recorder* for July, 1823, vol. vi. p. 516; and for his benefit, as well as for those who are denied the privilege of consulting the pages of that journal, we will insert in this place that portion of it which is descriptive of the operation. The disease for which it was performed had invaded almost entirely the left side of the inferior maxillary bone. Internally it occupied nearly the whole of the mouth, and for three weeks previously, the patient experienced great difficulty in swallowing, and occasionally was almost suffocated during sleep. Externally, the tumor had the appearance of a wen of considerable size, &c., &c. The account of the operation we give in his own words:

"An incision was commenced under the zygomatic process, and continued on the tumor, in the direction of the bone, to nearly an inch beyond the centre of the chin. A second incision was begun about midway, at right angles with the first, and extending a short distance down the neck. The integuments were now separated from their connection with the tumor, &c., and the bone was sawed off immediately at the angle and centre of the chin. I saw nothing of the parotid or sub-maxillary glands; they probably shared the fate of the teeth. [Dr. D. states in another part of his paper that he presumed the pressure of the tumor occasioned their absorption.] The wound was united in the usual manner, and the boy had a speedy and happy recovery. The tumor was cartilaginous, and on being cut exhibited a surface as white and smooth as polished ivory."

Thirteen years afterwards this patient was in excellent health. This certainly looks very much like "a methodical operation," and one would have supposed that, with such facts within his reach, an American Professor would have been slow to yield to a foreigner the credit so justly due to one of his own countrymen. That Dr. Deadrick is entitled to this credit will be more apparent after perusing the account of Dupuytren's first operation. We believe that the earliest notice of this is to be found in the *Thesis* sustained by Lisfranc on the 26th Aug., 1813, before the Faculty of Medicine in Paris. The 29th Vol. of the "*Dic. des Scien. Med.*" was published in 1818, and at page 432 may be found an extract descriptive of the operation taken from the above *Thesis*, by F. Ribes, to whom was entrusted the article on the "*Machoire.*" The details given by Lisfranc, who was present at the operation,

in his *Thesis* and in his "*Precis de Medecine Operatoire*," vol. ii. p. 419, as well as that contained in the "*Leçons Orales*," vol. iv. p. 628, differ in no material respect from the statements made by Dupuytren in a clinical lecture "On Amputations and Resection of the Lower Jaw," delivered at the *Hotel Dieu* during the session of 1833. This lecture was revised by the Baron himself previous to its publication in the *Lond. Lancet* for 1833, '34, vol. i. p. 56. As its accuracy, therefore, cannot be questioned, we hesitate not to quote from it, premising, however, that the disease which gave rise to the necessity for the operation was of a cancerous nature.

"An incision was now made through the middle of the lip nearly down to the os hyoides; the two flaps were then dissected off on either side from the tumor; the labial arteries, lying in the substance of the muscles, were easily avoided, and the flaps being held on one side by an assistant, room was obtained to divide the periosteum. When the bone was sufficiently exposed, it was divided on either side with a common saw, at about an inch from its angles. Up to this period of the operation only a few drops of blood were lost; but when the muscles attached to the genoid process, and along the mylo-hyoidean line, were divided by a curved knife, certain arteries, which had become enlarged in consequence of the disease, were necessarily cut through; however, the hemorrhage was not so violent as we had expected; the fingers of the operator and an assistant, placed on the submental and lingual branches, suspended the effusion of blood, and the carcinomatous tumor with the bone was removed. The parts removed weighed a pound and a half. The bone was affected with exostosis, caries, necrosis, and was softened in several places. Twenty-one years afterwards the patient (M. Lesier) was in good health."

Why this, more than that of Dr. Deadrick, was "a methodical operation," we confess our inability to discover. As such it is acknowledged by British writers on surgery, as the following observations of Mr. South, *Op. Cit.*, 745, will prove.

"As will be presently seen, Deadrick was the first who, in 1810, cut away the side of the lower jaw," &c.; and again, at page 748, he remarks: "Deadrick, of Rogersville, Tennessee, is justly entitled to the merit of having first, in 1810, amputated a portion of the jaw of a child of fourteen, who had a tumor occupying the left side of the lower jaw."

Mr. Stanley, in his *Treatise on the Diseases of the Bones*, p. 278, (Lond. ed.,) remarks, that Mr. Anthony White, in 1804, excised a part of the lower jaw, and Mr. Samuel Cooper, in his *Dictionary of Surgery*, alludes to the same operation. In consequence of this,

Mr. South was induced to inquire of Mr. White himself the particulars of his case, from which it appears his operation was not performed in 1804, but in 1816. (*Op. Cit.*, vol. ii. p. 750.) This case, in which the jaw was removed from the articulation, in its nature and result, corresponds more nearly with one of the cases in which the writer has disarticulated than any we have found on record.

Baron Percy removed a portion of the lower jaw, affected with caries, some time during the latter part of the last century. That it was not, however, properly "a methodical operation," the following extract, we think, conclusively shows:

"De 1779 à 1784, Percy fit avec succès plusieurs opérations neuves et hardies. Il emporta presque tout le centre d'une mâchoire inférieure profondément cariée, et dans ce grand délabrement il ménagea à la plupart des dents, flottantes et sans appui, les moyens de se consolider; bien que dépourvues d'alvéoles et de vaisseaux; et aux parties molles, convenablement rapprochées, les moyens de reprendre leur forme et en quelque façon, leur consistance première. Un mois suffit pour réparer ces ruines; tant sont promptes les ressources de la vie lorsqu' elle les déploie avec liberté!" (*Hist. des Memb. de l'Acad. de Med. ou Recueil des Eloges.* Eloge de M. le Baron Percy, par E. Pariset, tom. prem. p. 282.)

In 1818, we learn from the *Leçons Orales*, vol. iv. p. 669, that Baron Percy *proposed* to resect the ends of the bone in a case of ununited fracture of the lower jaw, but as the case presented some peculiar difficulties, he transferred it to Dupuytren.

If we go back to the last century we find that an *American* surgeon, Mr. WALKER, in 1760, removed for *necrosis* the *entire* lower jaw, except the chin. Some particulars of this case may be found in the *Mem. de l'Acad. Roy. de Chir.* tom. v. p. 366. The parts removed were placed in the possession of Mr. Else, Surgeon of St. Thomas's Hospital, London, who forwarded them to M. Chopart, in Paris.

We do not claim for this the title of "a methodical operation" in the modern acceptation of the term, the first of the kind having been performed, as we think we have conclusively shown, by Dr. Deadrick, in 1810, two years before that of the celebrated French surgeon. The following *panegyric*, therefore, *with a change of names only*, applies more properly to *another*!

"Quel nom donner à l'homme auquel l'humanité est redevable d'un si grand bienfait? Or hâtons nous de la proclamer hautement ici, à la gloire de son auteur, à la gloire de la chirurgie Fran-

caise (*Américaine*)! C'est en France (*Tennessee*), c'est à Paris (*Rogersville*), par notre célèbre professeur M. Dupuytren (*Dr. Deadrick*), qu'a été conçue et exécutée pour la première fois, en 1812 (1810,) cette admirable operation." (*Lec. Oral*, tom. iv. p. 669.)

Having substantiated the claims of American surgery to "the glory" of *priority* in exsecting, by "a methodical operation," a *portion* of the lower jaw, let us now examine some of the recorded facts which relate to the amputation of the *entire* inferior maxilla.

Prof. Carnochan, in the report to which we have already alluded, made the following statement :

"In the annals of surgery there is an *allusion* made to the amputation of the *entire* lower jaw by Walther, of Bonn, but I have not been able to trace the truth of it to an official source. The following case (his own) will prove that this operation can be performed with success," &c., &c.

From the above it is evident that Prof. Carnochan would have the reader believe that the authenticity of Walther's case, being, in his opinion, somewhat doubtful, his own operation must be the *first* that can be traced to what he denominates "an official source." Not knowing the precise meaning which he attaches to this phrase, we may fail in convincing him, that, even if Walther never did excise the entire bone, his own claims to priority in this respect are totally unfounded. However, we will present a few facts for his consideration, of the value of which he, as well as the reader, can form their own estimate.

In the *Annali Universali di Medicina*, for April, May, June, 1843, is reported a case in which Dr. Signoroni, of Padua, successfully removed the *entire* lower jaw for *osteo-sarcoma*. The date of the operation is not given, but it is stated that the patient, in perfect health, was exhibited to the Medical Congress of Padua, on the 27th Sept., 1842. For further particulars, see *Gazette Medicale* for Nov., 1844, p. 758; *Edinburgh Med. and Surg. Journal*, vol. i. 1844, p. 235; and *Philadelphia Med. Exam.*, vol. vii. 1844, p. 96.

In Prof. Syme's "*Contributions to the Pathology and Practice of Surgery*," published in 1848, at page 21, is a case recorded in which for *osteo-sarcoma* the professor removed the *entire* lower jaw. Matters progressed favorably after the operation until the next day, when the patient died suddenly, probably from suffocation produced by the retraction of the tongue.

One word in reference to the "allusions" made to Walther's case "in the annals of surgery." Are they such as to afford us

good reasons for *rejecting* his reported operation? The earliest notice we have been able to find of this case is in the *Archives Generales de Medecine*, vol. xi. p. 466, and not the *second* volume, as stated in Mott's Velpeau, vol. ii. p. 713. In the report of the proceedings of the Royal Academy of Medicine, for the 15th June, 1826, contained in this volume, we learn that M. Lisfranc laid before the Sect. de Chirurg. a case of *partial* exsection of the lower jaw by Gensoul, of Lyons, and that of the *entire* amputation by Walther, of Bonn. Lisfranc remarked that Walther tied both primitive carotids as a preliminary step in the operation. This report, it will be observed, was made in June, 1826, and in his "*Precis de Medecine Operatoire*," published in 1846, Lisfranc repeats the same statement, adding, moreover, that Græfe, of Berlin, had successfully performed the same operation, (*vide* vol. ii. p. 464.) Now, if we reject Lisfranc as an authority, "an official source," what becomes of Dupuytren's first operation in 1812? For the particulars of this we certainly are principally indebted to M. Lisfranc, for no one can deny that until the publication in the *London Lancet* of Dupuytren's clinical lecture, from which we have quoted, he was our only authority on this subject.

Velpeau, in a "Note sur quelques observations recuillies à la Clinique Chirurgicale de M. I. Cloquet (Hosp. de Perfect,)" in the *Archiv. Gen.*, vol. xiv., precedes his description of a formidable operation on the lower jaw, by M. Cloquet, with the following remarks, after alluding also to the operations of Mott, Græfe, Cusack, Gensoul, &c.: "Il y a plus, c'est que M. Walther est allé jusqu' à faire l'énlèvement complet d'os maxillaire; en consequence ce n'est plus une operation extraordinaire que celle dont je veux parler en ce moment."

Dupuytren also makes the following "allusion" to the case in question, in the clinical lecture to which we have before referred. "But the boldness of surgeons did not stop here; it is reported (*Arch. Gen. de Med.* tom. xiv.) that Walther and after him Græfe (*Journ. Hebdom.* t. 4) have removed the whole of the lower maxillary bone, by disarticulating it on both sides. Walther had previously tied both carotid arteries. These facts appear almost incredible, and it is difficult to imagine how the patient could survive such formidable operations." (*Lond. Lancet*, vol. i. 1833-34, p. 61.)

Malgaigne, in the first edition of his "*Medecine Operatoire*," published in 1834, gives to Walther the credit of having ampu-

tated the *entire* lower jaw, and in all subsequent editions he permits the same assertion to remain unchanged.

In the magnificent work of Bourguery & Jacob, published in 1837, we find it stated in the chapter on "Exsections of the Bones," that Walther had successfully removed the whole inferior maxilla.

Dr. Martell Frank, in his "*Systematisches Lehrbuch der gesamten Chirurgie*," published at Ehrlangen in 1851, (*Sweiter Band, Erste Abtheilung*, p. 167,) thus remarks: "Ph. V. Walther hat diese operation zuerst ausgeführt."

Dr. Weber, a son of the celebrated Prof. of Anatomy in the University of Bonn, and nephew of *Walther*, is at present residing in New-York. He informs us that his uncle *did perform* the operation which Prof. Carnochan cannot trace to "an official source!" True, others have considered Walther's case somewhat doubtful, as they could scarcely credit the fact that there *could be* sufficient disease of the bone, *without materially involving the soft parts*, to warrant so serious an operation. For example, Sedillot, in his "*Traité de Medecine Operatoire*," p. 384, inquires, in reference to this case, "*Comment s'expliquer une maladie de la totalité de la machoire sans alteration des parties molles?*" &c., &c. Prof. Carnochan, however, must consider this circumstance as of little weight, for if the veracity of the operator is to be questioned on such grounds, his own may hereafter suffer from the same cause!

Prof. Carnochan's operation was for *necrosis*, and in the "annals of surgery" it is not difficult to find the record of several cases in which the *entire* lower jaw has been removed for this disease. Perhaps the case in which Dr. Geo. McClellan extracted the whole bone (*vid. Principles and Practice of Surgery*) may not be admitted among "the methodical" operations, but we do not see how this title can be denied to that performed by Mr. Perry, which is reported at page 292, in the 21st vol. of the *Transactions of the Royal Medical and Chirurgical Society of London*. Mr. Perry has given an excellent plate representing the parts removed, and which include the *entire* bone. He does not inform us whether it was taken before or "after maceration." A very interesting question may arise in the minds of those who will take the trouble to compare the plates in the January number of the *N. Y. Journal of Medicine*, showing the parts "after maceration," with that given by Mr. Perry in the volume to which we have alluded. This question it is not our intention at present to discuss,

and we will only add on this point, that we think many with ourselves would gladly have dispensed with plate No. 2, for one which represented the parts before the operation!

Prof. Carnochan asserts that his operation proves that the lower jaw may be entirely removed with success, &c., &c. We have already shown that to Prof. Carnochan was not reserved "the glory" of having first furnished this proof. The case in which Mr. Spence completed the extirpation of the *entire* bone except the chin, (vid. *Ed. Med. Surg. Jour.*, Apr., 1843,) together with the terrible operations for *Osteo-Sarcoma*, performed by Mr. O'Shaughnessy, (*Brit. For. Med. Rev.*, July, 1845;) by Lisfranc, (*Prec. de Med. Op.*, vol. ii., p. 453;) by Prof. Syme, (*Cont. to Patl. and Pract. of Surg.*, pp. 14, 15;) by Dieffenbach, (*Die Operative Chirurgie; Zweite Band*, p. 64;) in which cases *nearly* all was removed, proved, in our humble opinion, far more than does the operation of Prof. Carnochan, that in those really demanding it, the entire bone might be amputated.

These were cases in which it must truly have been, in the language of Dieffenbach, a "*kuhnsten und blutigsten operationen*," and which required "*von seiten des Kranken die grösste Hingebung, von seiten des Chirurgen die grösste Gewandheit, Kuhnheit und Fassung*." No one will question the boldness and skill of the distinguished surgeon from whom we have just quoted, but we doubt whether success obtained in cases like those in which Dr. M'Clellan, Mr. Perry or Prof. Carnochan operated, would have emboldened the German surgeon to attempt the extirpation, *at once*, of the enormous growth so graphically described at p. 64, (*Op. Cit.*,) and in the accomplishment of which, with all his daring, he thought it expedient to resort to three different operations. The same observations apply to the cases of Prof. Syme, Mr. O'Shaughnessy and M. Lisfranc. In the first of these the parts removed weighed $4\frac{1}{2}$ pounds, in the second they were as large as a child's head, and in the third they were of very great magnitude. We believe we express the sentiments of the majority of surgeons, when we assert that the success which followed the operations of Dr. M'Clellan, Mr. Perry and Prof. Carnochan, under the peculiar circumstances of these cases, affords but a feeble criterion of what we might expect were we about to encounter cases of such frightful character as those to which we have referred, and in which the extent of the disease might require the removal of the *entire* bone.

Poisoning with Oil of Tansy. By JOHN C. DALTON, M. D.—The last number of the *Amer. Jour. of Med. Sci.* contains a report of a case of poisoning with oil of tansy. A healthy looking girl, aged twenty-one years, for the purpose of procuring abortion at about the fourth, took one ounce and three drachms of the oil. In fifteen minutes after swallowing it she was seized with violent convulsions; total unconsciousness; cheeks flushed, of a bright red color; eyes open and very brilliant; pupils of equal size, widely dilated and immovable; sclerotics injected; skin warm; respiration hurried, labored and stertorous, and obstructed by an abundance of frothy mucus, which filled the air-passages, and was blown from between the lips in expiration; the breath had a strong odor of tansy. At intervals of from five to ten minutes the convulsions recurred, in which the head was thrown back, the respiration suspended, the arms raised and kept rigidly extended, and the fingers contracted—this state continued for about half a minute, and was succeeded by a tremulous motion, often sufficient to shake the room, together with very faint and imperfect attempts at inspiration. She died in three hours and a half after taking the poison. The mucous membrane of the stomach was found pale, not vascular in any part, but throughout nearly the whole of the greater pouch, brownish and much thinned and softened, so that for a considerable space it was nearly or quite destroyed. Portions of the oil were found in the stomach. The uterus contained a well-formed female fœtus, about four months old.

Case of Ovariectomy. By EZRA P. BENNETT, M. D., of Danbury, Conn.—[Communicated in a letter to the *Amer. Jour. of the Med. Sci.*].—DEAR SIR: I operated, a short time since, for ovarian dropsy, on a Mrs. B., of Redding, Conn. The patient was 52 years of age, was married, and had two children. She had usually enjoyed good health until about two years since, when she became somewhat indisposed, but not so much so as to compel her to desist from her household duties. In the spring of the present year she consulted me, when I detected a tumor immediately above the pubis, about half the size of the head of a newborn child. It was in the median line, grew rapidly, and soon fluctuated; she was tapped, I think, as early as March, by her attending physician, Dr. Gorham, twice within five or six weeks; the fluid was albuminous. I removed the tumor in June. It was adherent to the walls of the abdomen over a space about the size of the palm of the hand; no other adhesions. The wound appeared to do well. No appearance of inflammation within the abdomen; but she died from exhaustion on the fourth day. The operation was performed under the influence of chloroform. The sac was large, capable of containing a pail full, and was eminently multilocular; her age was against her; the operation was too long delayed; the fluid being albuminous, the restorative powers of the constitution were destroyed. I have not thought it necessary to go into the minutiae of the case.

Extirpation of more than half the Lower Jaw, for a Cancerous Degeneration. By PROF. F. H. HAMILTON, M. D.

D. C. Hooper, aged 49 years, was admitted into Buffalo hospital, as a private patient, January 24, 1851. In 1844, he first discovered a small movable tumor under the right ramus of the lower jaw. One year since a cancer doctor cauterized it, and destroyed the tumor with some of the adjacent structure. The wound thus made healed slowly, and left new indurations, which rapidly extended, and the bone became involved. The disease at the time of the operation, implicated the whole right half of the inferior maxilla, and much of the neighboring soft parts. His health was good.

Operation.—Jan. 25, 1851. Patient under the influence of chloroform. An incision was made from near the glenoid cavity, along the descending and horizontal ramus of the symphysis. This incision was intersected by a second, commencing at the angle of the mouth, and terminating at the angle of the jaw. The flaps thus made being lifted, the bone was separated about five lines to the left of the symphysis, with a chain saw, and the condyle was then removed from its socket. The operation was not commenced with the expectation of removing so large a portion of the jaw, but, on exposure, and having tried it with a knife, it was found diseased in its cancelli, from the socket to the symphysis. The soft parts were also largely involved both within and without the mouth. As effectually as possible the whole was cleared away. Three vessels only required the ligature. The wound was closed with sutures. The wound granulated and continued to heal steadily until the 22d of February. An opening of half an inch in diameter still existed, through which healthy matter was discharged; his strength was such that he sat up a considerable portion of the day; his appetite was good, and a favorable issue seemed probable if not certain. On the morning of the 22d he arose as usual to take his breakfast, and intending, after breakfast, to leave the hospital, when he was suddenly seized with a sensation of unusual prostration; he was laid upon the bed, and died in a few moments. No medical officer was called, and the body having been removed soon after, no autopsy was made. The cause of his death remains, therefore, unexplained.—*Buffalo Med. Jour.*

* *American Medical Association.*—The fifth annual meeting of the American Medical Association, will be held at Richmond, Va., on Tuesday, May 4th, 1852.

All secretaries of societies, and of other bodies entitled to representation in this association, are requested to forward to the undersigned, correct lists of their respective delegations, as soon as they may be appointed.

The following is an extract from Art. II. of the Constitution :

"Each local society shall have the privilege of sending to the association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half of this number. The faculty of every regularly constituted medical college or chartered school of medicine shall have the privilege of sending two delegates. The professional staff of every chartered or municipal hospital containing a hundred inmates or more, shall have the privilege of sending two delegates; and every other permanently organized medical institution of good standing shall have the privilege of sending one delegate."

The medical press of the United States is respectfully requested to copy.

P. CLAIBORNE GOOCH,
One of the Secretaries, Richmond, Va.

University Medical College.—The new arrangements in this college consists in the appointment of Prof. Valentine Mott, M. D., as Emeritus Professor of Surgery; and Dr. W. H. Van Buren Professor of Descriptive Anatomy, in the chair rendered vacant by the decease of Prof. Pattison. These arrangements it is believed will add much to the prosperity of the school.

OBITUARY.

DEATH OF SAMUEL R. SMITH, M. D.—At his residence on Staten Island, on the 24th Dec. last, of pneumonia, aged 50 years. He was a graduate of the College of Physicians and Surgeons of this city, and had practised his profession nearly twenty-five years. He was a beloved physician, and was taken to his grave amidst as general, deep and unaffected grief as is seldom ever witnessed.

DEATH OF SIDNEY A. DOANE, M. D.—In January last, at Quarantine, S. I., of typhus fever. Dr. Doane was a native of Boston, Mass. He graduated Doctor of Medicine at Harvard University, in 1828, soon after which he removed to this city. He had a great fondness for the literature of our profession, particularly for the French department of it, where his translations were extensive and varied. He was a man of great industry and perseverance, and as a physician, was honored and beloved by his patients and friends. He died in the discharge of his duties as Health Officer of the port of New-York. In our next number will appear a more extended notice of his professional life and character.

DEATH OF F. F. COLTON, M. D.—At the New-York Hospital, on the 23d of February, of typhus fever. He was a graduate of the College of Physicians and Surgeons of this city. He died in the discharge of duty as resident physician of the hospital. He was a young man of much promise in his profession. Many of our readers will remember his reports of cases published in the past numbers of this journal, which were among the first of his medical writings.

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THE NEW-YORK JOURNAL OF MEDICINE

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PART FIRST.

ORIGINAL COMMUNICATIONS.

ART. I.—*Cases of maculated Typhus or Ship Fever; with suggestions of Treatment; being the result of a series of observations made during the prevalence of this disease at South Boston and Deer Island Hospitals, in 1847-48.* By J. B. UPHAM, M. D., of Boston. [With Illustrations.]

THE subject of this paper is one which has more or less engaged the attention of the writer for several years. The disease was first noticed while a student at the hospitals connected with the House of Industry, at South Boston, in the summer of 1846. During that season, not more than fifty or sixty cases appeared. As then manifested, the disease was strictly sporadic in its nature, and mostly of a mild character, though bearing all the distinctive marks so prominent in its subsequent epidemic form. It was a matter of curiosity, rather than of special interest or dread. Presently, it was remarked, that all the instances which occurred were among the emigrants recently landed from the ships; and hence it was commonly designated in the Hospital Register, by the title of "ship fever."

Towards the first of September the disease entirely disappeared from the wards, and was not again seen till the month of January following. In that and the first of the succeeding month, a few cases again appeared, and the admissions gradually increased in frequency till about the middle of March, when several vessels arriving in port together, after prolonged and tedious voyages, poured upon us a large influx of patients, and from this the epidemic may be said to date the commencement of its fearful reign. It continued till the first of July following, about which time the Quarantine establishment on Deer Island opened its portals; and no more admissions for the fever were allowed at the House of Industry. The greatest number of typhus cases in the wards at any one time, was about two hundred.

It was during these four months of labor in the capacity of assistant physician to the hospitals connected with the House of Industry, that my attention was turned to the study of this disease, in its primary form and its peculiar characteristics as revealed in the living and dead, minutely recorded. Subsequently, as resident physician for a few weeks in the Quarantine Hospital at Deer Island, my investigations were directed more particularly to the secondary effects of the fever, which here and at South Boston had been a constant accompaniment during the prevalence of the epidemic, and had proved, despite all the known methods of treatment, peculiarly intractable and fatal. It was while prosecuting my researches into this sequel to the fever, that the novel and striking lesions shown in the annexed plates were revealed, and which it is my belief had never before been regarded in this country or in Europe. My friend and colleague, Dr. C. A. Walker (afterwards assistant physician at Deer Island, and now superintendent of the Boston Lunatic Hospital), aided in the examination of many cases, and shared with me the fatiguing labors of the dead house.

As it is not possible in the limited space I should feel justified to occupy in the Journal, to give a memoir of the epidemic in question, which would be complete and distinct in all its parts; I propose here only to offer a few cases to represent the condition of the fever, as shown in its various types and modifications, together with some suggestions of treatment drawn from personal observation. It is my hope at some future day,

should opportunities present to extend still farther the field of investigation, to give in a more extended form the results of my researches in a disease which has more than decimated the ranks of our profession whenever it has assailed them. The delineations which follow will show in order :

I. The conditions and appearances of the fever as presented under the exalted and depressing type, in both its mild and severe forms, terminating in recovery and otherwise.

II. The secondary intestinal affection or sequel to the fever, with the striking lesions discovered in the intestinal tract.

III. The effects of treatment as adapted to these various forms and manifestations of the disease.

Some of the cases here selected, are the same published in an isolated form in the *Boston Medical and Surgical Journal*, in January and February, 1848, and are chosen as showing perhaps more perfectly than any others the different phases of the epidemic as it appeared in the above-named places. The first instance adduced is one of sporadic nature, of medium severity, which could be traced to no definite source, running its course evenly and without any marked phenomena, but of the nature of which there could be no doubt.

CASE 1.—Mary J. D., 30 years of age, of large frame, bilious and nervous temperament, was admitted to hospital of House of Industry, July 1st, with fever. Two or three weeks previously she was discharged from the wards, where she had remained several weeks under treatment for chronic bronchial affection, with indigestion and other dyspeptic symptoms. At the time of her departure she considered herself well, and returned to her situation as domestic in a family in the city.

Having experienced for two or three days previously erratic pains throughout the system, with occasional nausea, anorexia, dizziness and general lassitude ; on the 26th of June, while about her usual employment, she was suddenly seized with chills, accompanied with violent headache, and followed by heat, pain in the back, joints and limbs, stiffness and general soreness of the muscles. The following day she took to her bed. Since then the above symptoms have been increasing from day to day, with decided exacerbations at night. She

has had hot skin, thirst, a loaded tongue, perverted vision, great restlessness and inability to sleep. She had been purged freely at the outset, and two days previous to admission got an emetic of ipecac., which operated well.

July 1st.—Appears a good deal prostrated. Complains of violent headache, particularly intense in a line across the forehead, and pains in back, loins and limbs; much nausea, retching; foul and loaded tongue. She has considerable cough, but this is of long standing. Abdomen soft and natural. No appetite, intense thirst, great restlessness and general uneasiness. Directed tepid sponging of arms and chest. Cold lotions to head; cool drinks; light farinaceous diet. Morphia, gr. $\frac{1}{4}$ nocte.

July 2d.—Drowsed a little, but got no refreshing sleep during the night. This morning has still intense pain across the forehead and in the eyes, with great sensibility to light—brows contracted—face sallow and expressive of some stupor—tongue swollen and flabby, covered with a thick, yellowish white fur extending to edges and tip—bad taste in mouth—fœtor of breath—harassing cough—pain and soreness of chest undiminished; percussion good anteriorly—slight bronchial mucous rale; burning heat in stomach; dull pain in upper portion of right iliac region, increased by coughing; abdomen otherwise natural; pulse 94, regular, quick and jerking, moderately full; urine scanty, high coloured, thick and sedimentous; three stools, very dark and fœtid; skin dry, but little above the ordinary temperature. Surface of abdomen, chest and shoulders presents, on careful examination, a *peculiar obscure mottled appearance*, resembling the commencing congestion of a mild case of roseola, but no maculæ yet defined. Cold drinks in small quantities, frequently administered; gruel; bland arrow-root given cold; evaporating lotion to head; turpentine stupe to chest and epigastrium; effervesc. mixt. p. r. n.; sulph. morph. gr. $\frac{1}{4}$ repeated in two hours, s. o. s.

July 3d.—Slept pretty well on $\frac{1}{4}$ gr. morphine; expression of face much the same; headache less severe; eyes a little injected; tongue has somewhat darker coat, otherwise the same; slight appearance of sordes on teeth and lips; great fœtor of breath; skin dry and hot, with great sensitiveness of

surface ; pulse 104, regular, moderately full and firm ; cough the same ; tenderness of epigastrium slight ; pain and uneasiness of chest relieved ; abdomen soft, natural, no tenderness on pressure ; no pain. Maculæ apparent on abdomen and sides of chest, seen also faintly on arms and legs ; these spots disappear almost wholly on pressure, and resemble the lighter eruption of measles ; urine scanty and high colored ; no stool ; surface of whole body emanates a strong, offensive, and peculiar odor ; flying pains in back and limbs ; intelligence good ; no appetite ; great thirst for cold drinks. Diets and drinks as yesterday ; continue efferv. mixt.; ol. ricini. ʒss. in emulsion ; morphia, p. r. n. at night ; lot. to head continue.

July 4th.—Slept early in the night, after two doses morphia. General appearance as yesterday ; pain continues in head, back and loins ; eyes the same ; face somewhat flushed ; tongue inclining to brown ; chest natural on percussion anteriorly ; slight bronchial mucous rale ; some dulness inferiorly, on back ; respiration generally somewhat obscure ; some tenderness at epigastrium ; considerable nausea and retching. Abdomen soft, natural ; no tympanites, tenderness, or pain ; skin more hot, but moist ; burning sensation at stomach ; pulse as yesterday ; spots more numerous and distinct, seen on abdomen, chest, extremities and back ; urine as yesterday ; three stools of dark yellowish brown color. The strong and peculiar odor of surface very noticeable ; no appetite ; great desire for cold drinks ; intelligence a little obscured. Ice-water in small quantities and frequently ; liq. acet. ammon. ʒss. q. t. horâ, or neutral mixture if the former disagrees ; morphia at night, in doses one-sixteenth gr. repeated every hour till sleep supervenes, or till $\frac{1}{4}$ gr. has been taken.

July 5th.—Took $\frac{1}{8}$ gr. morphia last night, which procured sleep of short continuance and disturbed ; general appearance of more prostration ; pain in head abated, continues in back and loins ; eyes slightly injected ; face less flushed ; tongue swollen, coat darker in middle, very white towards edges, but quite moist ; cough severe, attended with pain and hoarseness ; considerable tenderness at epigastrium ; nausea and retching relieved ; heat of skin increased, communicating a burning sensation to the hand ; general and great sensitiveness of sur-

face. Spots apparent on chest, abdomen and back, mostly vanish under firm pressure, more numerous and persistent on back; pulse 104, soft, compressible; breathing hurried and laborious, but regular; urine as yesterday; one stool; intelligence good; no appetite; persistent thirst; desires cold and acid drinks.

Mild farinaceous diet, given in small quantities at regular intervals; tepid sponging of trunk and arms; liq. acet. ammonia, or effervescing draught; cold drinks, slightly acidulated with cream of tartar. Morphia nocte, p. r. n.

July 6th.—Took $\frac{1}{4}$ gr. morphia; rested better during the night; still increasing prostration; pain more severe in head; in back and limbs as yesterday; eyes sensitive and suffused; face paler; tongue as yesterday; cough rather less; some tenderness of epigastrium; nausea returned; skin moist, but intensely hot (calor mordicans); spots much as yesterday, a little paler; pulse 104, a little fuller and firmer; breathing 36, somewhat laborious, interrupted by coughing; considerable apathy and stupor, but patient easily roused, and then answers questions readily and rationally; some sordes on teeth and lips; breath very foetid; no appetite; urgent thirst continues; one yellowish-brown liquid stool; urine more abundant and of lighter color. Spirits milderer or soda, p. r. n. Sponge with very mild solution of chloride of soda, tepid or cold, as most agreeable. Terebinthinate liniment to chest and epigastrium; in other respects ut heri.

July 7th.—Took $\frac{1}{4}$ gr. morphia, and slept well at night; face as yesterday; eyes less sensitive to light; tongue swollen; coat more foul and dark; sordes on teeth and lips; skin very hot but moist; coughs much; great tenderness in epigastric region; abdomen soft and natural; spots disappearing; pulse 100, of moderate strength and volume; respiration 32, laborious, accompanied with moaning; urine as yesterday; bowels rather loose; stools watery, dark, and offensive; no appetite; thirst continues urgent; complains of loss of memory and great weakness. Sinapism to epigastrium; pulv. Doveri, gr. viij., which repeat s. o. s. Continue in other respects as yesterday. Morphia in minute doses at night, s. o. s.

July 8th.—Slept well most of the night after gr. $\frac{1}{4}$ of mor-

phia ; general appearance improved, though expressive of great weakness ; eyes clearer and less sensitive to light ; pain in head much less ; tongue somewhat swollen, covered with foul, dark yellow coat in middle, very white towards edges, cleaning at tip ; sordes on teeth ; skin less hot and more moist ; coughs much ; soreness at epigastrium much relieved ; abdomen soft and natural ; bowels not so loose ; one stool this morning, more natural ; maculæ faintly seen ; breathing 28, less laborious, with slight moaning ; pulse 88, firmer ; a little appetite ; thirst not so urgent ; complains of weakness and faintness. Repeat sinapism, s. o. s. ; increase diet ; beef-tea cautiously given ; toast water ; morphia nocte, gr. one-sixteenth repeated q. semi horâ till sleep ensues.

July 9th.—Took morphia three times and slept pretty well ; general appearance much as yesterday ; eyes the same ; face more flushed ; headache increased ; tongue as yesterday ; sordes on teeth and lips ; cough severe ; constant dull pain in chest ; increased epigastric tenderness ; breathing 32, regular, slightly laborious ; abdomen soft and natural ; skin moderately cool, moist ; pulse 88, character as yesterday ; urine the same ; one stool, scanty and dark ; diminished thirst and improved appetite. Effervescing draught ; turpentine stupe to chest and epigastrium. Omit beef-tea, and allow only toast water, bland arrow-root or panada in small quantities and at frequent intervals.

July 10th.—Took $\frac{1}{4}$ gr. morphia and slept well ; general appearance brighter ; face paler than natural ; eyes clearer ; tongue has a dark yellow foul coat on centre and base, moist, very little sordes on lips ; pulse 82 ; respiration 32 ; one stool, more natural ; appetite improved. More nourishing diet ; morph. nocte.

July 11th.—Slept much yesterday, but little during the night ; tongue a little improved ; sordes gone from lips, a little on teeth ; very little pain in head, much in extremities ; slight tenderness of epigastrium ; abdomen natural ; skin cool and moist ; pulse 80, feeble, compressible ; breathing 38, easy ; urine natural ; no stool ; considerable thirst ; appetite good. R. Vin. puri, sol. sulph. quiniæ, â â M. ʒss. every fourth hour. Nourishing diet ; toast water.

July 12th.—General aspect improved, but expressive of weakness; severe pain in legs, but none elsewhere; tongue cleaning, moist; cough loose, and much less; skin cool and moist; pulse 80, fuller and firmer; breathing good; no stool; but little thirst; appetite moderate. R. Ol. ricini, $\frac{1}{2}$ ss. in aromatic emulsion; wine and quinine continued; mutton broth in small quantities.

July 13th.—Slept well without the aid of morphia; eyes and face natural; tongue has thin, moist, dark brownish coat in middle, natural at tip and edges; no tenderness at epigastrium; thirst diminished; appetite improved; pain in lower extremities severe and annoying; skin cool and moist, natural; one stool; pulse 80, soft, regular, of moderate volume. More nourishing diet given often in small quantities; wine and quinine continued less frequently; stimulating pediluvia.

July 20th.—Nothing unusual has occurred since last date. Convalescence has proceeded evenly, and rapidly as could have been expected in a previously enfeebled constitution. Nourishing diet and drinks; beef-tea and broths cautiously given; bitter tonics alone or in combination with stimulants, and oil in emulsion to open the bowels when costive, has been prescribed, as circumstances required. Patient has now her usual degree of health.

This case offers nothing remarkable. Its duration from the first accession of fever to convalescence, was 16 days. As might have been predicted, the force of the disease was determined chiefly to the chest. Next to the lungs, the stomach suffered most. The prostration was very considerable. The brain was only slightly affected. There was no very marked vascular or nervous excitement. The eruption, the hot skin, the peculiar odor of the perspiration, and the general fuliginous aspect, were characteristic. The only plan of treatment demanded was the expectant, till marked prostration began to appear, when the combination of wine and quinine with a strengthening diet, cautiously managed, produced the best effects. Diarrhea, which came on once, was readily checked by the powders of ipecac. and opium in small doses.

CASE II.—John Swain, a sailor, 49 years of age, of robust frame and hardy constitution, formerly intemperate, became an inmate of the House of Industry in April. He assisted occasionally as nurse in the fever wards, and was constantly more or less in communication with the sick.

June 24th, was admitted to hospital. Four days previously he complained of weakness, lassitude and incapacity for exertion, with headache, pain in back and limbs, uneasy sensations at the stomach, general sensitiveness of surface and soreness of the muscles, or to use his own expression, “a *bruised* feeling, as though he had been beaten with clubs.” For the three following days, these symptoms continued in an aggravated form, with occasional rigors and alternations of heat. His appetite remained pretty good, and he still kept about, wearing a dull look.

June 25th.—Sixth day of fever. Had at time of admission yesterday, intense cephalalgia, referred chiefly to forehead and eyes, with increase of all the preceding symptoms—well-marked and protracted chills, followed by intense heat. Got an emetic of ipecac. $\frac{ss.}$, which operated well, and produced diaphoresis, with temporary relief of symptoms. Slept but little during the night; has this morning intense pain in head and back; also pain in joints and limbs; eyes dull; face flushed, of darker hue than natural; expression of some apathy; tongue covered at centre and base with moderately thick, moist, yellow coat, clean and red at edges and tip; skin moist, not much above the natural temperature; abdomen soft and natural; slight gurgling in right iliac region, no pain on pressure; respiration good; an abundant eruption beginning to appear on abdomen, shoulders and chest, like florid measles in form and hue, some slightly raised, others not at all, vanishing mostly under pressure; great restlessness; considerable appetite; much thirst; pulse 84, full and moderately strong; urine free; one or two stools since yesterday morning, offensive. Ol. ricini in emulsion; light farinaceous diet; acet. ammonia, $\frac{ss.}$ q 4th horâ—morphia, gr. $\frac{1}{2}$, nocte.

7th day.—Slept two hours after the morphia. On waking felt much relieved; this morning expression better; intellect clear; less pain in head and back; same in joints; tongue as

yesterday; face of darker hue; pulse more frequent, of moderate force and volume, regular; breathing a little quicker, regular; skin hot and dry; abdomen natural; no tympanites, tenderness, or soreness; gurgling ceased; spots more apparent, of darker hue, irregular in form, isolated and in clusters, disappear only partially under the finger, and communicate, some of them, a slight sensation of elevation; urine as yesterday; bowels regular; appetite continues good; thirst urgent, desires acid drinks; complains of much weakness. Gruel, weak tea and dry toast in moderate quantity; slightly acidulated drinks; tepid sponging; acet. ammon. ut heri.

8th.—Increased prostration; no good sleep; wandering delirium at night; some nervous agitation; intense pain in head; tongue thickly coated with dark yellow fur, but yet moist, tip and edges of lilac hue; dark thin line of sordes on lips; some cough; pulse more frequent, otherwise as yesterday; skin very hot; perspiration at times abundant, but affords no relief; maculæ very abundant on abdomen, chest and extremities, darker in hue, on some parts resemble the dark efflorescence of measles, slightly raised, disappearing on firm pressure; others of the nature of true petechiæ, imbedded in substance of skin, persistent; some tenderness at epigastrium; no tympanites or tenderness of abdomen; much nausea and retching; urine high colored; bowels moderately free; dejections liquid and dark; appetite still good; much thirst for acid drinks. Diet and drinks as yesterday; tepid sponging continued; cold to head; efferv. mixt., sulph. morph., gr. $\frac{1}{2}$ at night, repeated in two hours, s. o. s.

9th.—Got some sleep after two doses morphia; pain in head diminished; eyes somewhat injected; face more flushed, inclining to leaden hue; tongue darker in middle and base, in other respects as yesterday; pulse weaker, compressible; some irregularity of breathing; slight cough, attended with some pain; percussion good anteriorly; slight bronchial mucous rale; skin less hot; perspires much; spots increasing in abundance; still darker, communicate no sensation of elevation to the finger; persistent under pressure; abdomen natural; three dejections; appetite morbid; some stupor, but intelligence good when roused; same treatment continued.

10th.—Slept considerable; stupor more marked, but intelligence clear when roused; answers questions with difficulty from exhaustion; some sordes on teeth and lips; tongue swollen, with dry brownish coat in centre, light moist fur at edges; pulse more frequent and feeble, very compressible; skin cool and moist; perspires continually; spots petechial, livid, persistent; abdomen natural; three or four dejections. Beef-tea in small quantities regularly given; $\frac{3}{4}$ ss. of a mixture of wine and sol. sulph. quiniæ, equal parts every fourth hour; sulph. morph. gr. $\frac{1}{8}$ repeated twice at intervals of an hour.

11th.—Slept very little; eyes suffused; dull pain in head; face of dusky hue; thick dark brown, foul coat on tongue, livid at tip and edges; sordes on teeth and lips; breathing short, hurried; pulse 112, weak, compressible, regular; skin moist, slight increase of temperature; considerable cough; percussion dull at posterior and inferior portions of chest; some tenderness at epigastrium; abdomen soft and natural; abundant livid maculæ on abdomen, chest and back, less distinct on arms and legs; urine high colored, cloudy; two stools; great prostration; stupor, but no decided cerebral symptoms; impulse of heart feeble; appetite *gone*. Vin. et quin. every two hours; mutton broth in small quantities frequently given; morphia at night in minute doses, p. r. n.

12th.—Slept well towards morning; $\frac{1}{8}$ gr. of morphia; dull headache continues; tongue a little drier and browner; face as yesterday; sordes on teeth and lips; breathing 36; pulse 112 regular, much less compressible; skin above natural temperature, less moist; chest symptoms as yesterday; spots more apparent on extremities, in other respects as yesterday; abdomen natural; two stools, yellowish, liquid, fætid; stupor rather less marked; appetite returned; intense thirst. R. efferv. draught; porter in small quantities; vin. et quin., ut heri. Morphia, p. r. n.

13th.—Slept pretty well; expression of countenance dull and vacant; more stupor; eyes less injected, some sensitiveness to light; tongue protruded with difficulty, red at tip and edges, more dry, covered with a thick dark yellowish brown coat, fissured; no tenderness at epigastrium; percussion decidedly dull to a considerable extent on lower back, with

slight sub-crepitant rale and bronchophony ; breathing as yesterday ; skin more hot ; pulse 112, as yesterday ; abdomen natural ; one stool, dark, slimy, fœtid ; petechiæ still of darker hue, more vivid on extremities, very abundant and strongly marked on back ; some appetite, and thirst for acid drinks ; great prostration ; same treatment as yesterday. Morphia at night, p. r. n. ; tonic mixture more frequently given.

14th.—Got some unquiet and disturbed sleep ; continual moaning ; more complete prostration ; great headache, and pain in every part of body ; great sensibility of surface, and soreness of muscles ; face more flushed and of more dusky hue ; tongue glossy at tip and edges ; its central coat dry, hard and black ; protruded with difficulty ; no sordes on teeth ; slight cough ; tenderness at epigastrium ; pulse 98, rather more feeble ; skin as yesterday ; breathing more difficult, short and hurried ; spots fainter ; three stools, character as yesterday ; appetite capricious ; constant and great thirst for acid drinks ; intelligence more obscure ; tendency to coma ; subsultus affecting tendons of wrists and hands ; decubitus dorsal, with knees drawn up ; slips down in bed. Beef-tea ; chicken broth ; wine and quinine, $\frac{3}{4}$ ss., g. sec. horâ. Efferves. draught ; Dover's powder, grs. v. nocte.

15th.—Slept pretty well ; general appearance as yesterday ; pain continues severe in head and back ; eyes injected, and very sensitive to light ; tongue protruded with difficulty, withdrawn slowly, with a hard, dry dark coat extending to tip, edges livid and moist ; more sordes on lips ; face more dull, more livid and dusky ; chest symptoms less severe ; continued tenderness at epigastrium ; sensitiveness of surface continues ; skin generally, over the body, darker than natural ; spots fading, the lightest disappear on pressure, others do not ; very light tenderness of abdomen ; one stool ; urine abundant ; skin less dry and hot ; pulse 88, of moderate fulness and firmness, regular ; intelligence improved ; some moaning ; appetite and thirst less ; decubitus more easy. Arrow-root, beef-tea, cautiously given ; demulcent drinks ; tonic mixture every fourth hour ; morphine, gr $\frac{1}{4}$, at night ; repeat every hour till sleep ensues, or till gr. $\frac{1}{4}$ is taken.

16th.—Passed a better night ; general appearance of great

prostration; countenance clearer; eyes less injected and less sensitive; pain in head and back much less; tongue protruded and withdrawn more readily, clearing at tip and edges a little, otherwise as yesterday; less sordes; less cough, breathing more easy and free; slight moaning; very slight tenderness at epigastrium and abdomen; surface less sensitive; spots fainter; skin natural; urine natural; three stools, scanty, yellow; thirst yet urgent; appetite strong; intelligence good; decubitus easy and natural; says he feels weaker. Efferves. draught; veal broth; arrow-root; wine and quinine, *ut heri*; morphia, s. o. s.

17th.—Slept very well; complains of weakness only; eyes and face more natural; tongue inclining to moist, its coat less hard; breathing 16, regular, free, easy; cough less; skin cool, natural; sensitiveness of surface diminished; spots fading; no tenderness at epigastrium; urine more abundant, passed without difficulty; two stools, more natural; appetite good; thirst still considerable for acid drink; intelligence good; decubitus on side or back, easy; pulse 80, full, firm, regular. Continue same remedial measures.

19th.—The notes of yesterday showed an improvement in all the symptoms; tongue cleaner at tip and edges, its coat less dark and hard; all the excretory functions more naturally performed; pulse 78, full and firm.

This morning, appears still improved; slept well all night; no pain; face and eyes brighter; tongue cleaning; no cough; skin natural; urine abundant, of good color; one stool, natural; appetite urgent; thirst less; pulse 72, full, regular. Same treatment; particular caution enjoined as to diet; good farinaceous articles; calves'-foot jelly and the lighter broths, administered in small quantities, frequently and regularly; tonic mixture, $\frac{3}{4}$ ss. *ter in die*; morphia, $\frac{1}{4}$ gr. *nocte*, s. o. s.

21st.—Yesterday had somewhat more thirst; tongue clean in middle, but dry and very red, a broad line of white coat on each side; no pain; expressed himself as feeling every way better. Substitute a grain or two of sulphate of quinine, three times a day for the mixture.

To day, tongue cleaner, but rather dry and very red; no morbid thirst; universal and marked improvement; complains of nothing but weakness and hunger.

24th.—Nothing unusual has occurred ; tongue moist, still very red ; no affection of chest remaining ; thirst natural ; digestion well performed ; all functions natural. Convalescence was speedily merged in perfect health, with no untoward symptom.

Observations.—Here the disease was more intense than in the preceding case, and showed a pretty distinct crisis on the eve of the 15th day. The persistent appetite was a curious feature. The petechial eruption and dusky surface were strongly exhibited, but the peculiar heat alluded to above was not present, and the offensive odor of the body, though noticeable, was slight. There was considerable stupor, but cerebral and general nervous disturbance was not marked ; there was no prominent affection of any internal organ. The tendency was to general exhaustion, and the case, though of medium severity, is a fair example of a large class, which assumed the depressing type during the epidemic, and shows well the effect of this form of the fever upon a robust and muscular subject. The benefit of a cautious stimulant and tonic treatment, which was adopted in such cases, and followed up even from an early period in the disease, is manifest.

The readiness with which, in both of the above cases, sleep was induced by minute doses of morphia, also demands notice.

CASE III.—George Ames, 48 years of age, of strong frame and plethoric habit, formerly addicted to intemperance, has been for several years an occupant in the House of Industry. For two or three years past he has officiated as nurse in the various wards connected with the hospital. His general health is good ; he has a resolute will, and strong powers of endurance. Since the 1st of May, he has had charge of one of the principal fever wards of the hospital.

On Sunday, June 20th, experienced feelings of languor and uneasiness ; general soreness of muscles ; loss of appetite ; dull pain in head ; back, and joints, with considerable prostration of strength. The following day these symptoms increased in severity, but he made no complaint, and kept about, attending to his usual duties in the ward. On the 22d, at the hour

of visit, his condition attracted observation, and he was directed to keep his bed. He had taken that morning, on his own responsibility, two ounces of a mixture containing equal parts of tincture of rhubarb and castor oil, which had the effect of producing several abundant dark-yellowish faecal discharges; his tongue was slightly coated—pulse good. He still persisted in attempting his customary occupations. Towards evening he had an aggravation of all the preceding symptoms, with nausea, retching, and occasional chills, followed by intense heat.

On the 23d, symptoms still continued. He had intense cephalalgia, a dull and inexpressive face, suffused eyes, full and laboring pulse. Directed an emetic ipecac., $\frac{5}{8}$ ss. liq. acet. ammon., light farinaceous diet.

The day following there was increasing prostration; constant and harassing pain in head, back, and limbs; hot skin, thirst, restlessness, considerable nausea and uneasiness in the stomach. Towards evening, on the 25th, the headache and pain in the back sensibly abated; there was dizziness, increasing apathy, and some confusion of the intellect. He had been sponged, and had taken mild diaphoretics, cool and acidulated drinks, and Dover's powder or morphia in minute doses at night.

26th.—Sixth day of fever. Complains of great weakness; expression of much apathy; eyes suffused; cheeks flushed; tongue covered posteriorly with thick yellowish coat, clean at sides, and tip moist; fautor of breath; breathing somewhat irregular; some nausea; skin rather dry, not much above standard temperature; abdomen full and soft; no appetite; much thirst for acid drinks; pulse a little more frequent than natural, of moderate strength, and volume regular. One dejection this morning, dark, liquid, and offensive; mind dull, but patient is easily roused, and then answers questions readily. Efferves. mixt., weak lemonade, gruel, morphia, $\frac{1}{4}$ gr. nocte.

27th.—Seventh day. Slept but little; complains of no pain; increased prostration; countenance dull; eyes much suffused, conjunctiva slightly injected, some dimness of vision; tongue has dark yellow coat on centre and base, red at edges and tip; breathing more frequent; skin intensely hot, but

moist; hue of surface a little darker than natural; sides of abdomen and chest present an indistinct mottled appearance (the faint roseate congestion before alluded to), by attention to which the approach of the characteristic eruption may be predicted with certainty; the same appearance, more obscurely seen, on the shoulders and thighs; abdomen soft and natural; urine free, and high colored; three dejections, dark, slimy, fetid; pulse 90, moderately full, soft, compressible. Directed cold or tepid sponging, as most agreeable; neutral mixture; spts. mindereri, $\frac{3}{4}$ ss. q. 4th horâ; sulph. morph., gr. $\frac{1}{4}$, nocte.

8th day.—Slept but little during the night; general appearance of prostration; decubitus mostly on back; lies low in bed; eyes as yesterday; face flushed and dull; tongue more coated, inclining to brown; pulse a little more frequent, more compressible; some cough, attended with soreness; skin rather dry, heat as yesterday; spots begin to appear on abdomen and chest, of florid hue, vanish under the finger; urine scanty, and very dark; one dejection, dark and slimy. On grasping the patient's wrist, he invariably withdraws his hand, and glides it slowly, and to appearance unintentionally, upward as far as the neck; answers questions with difficulty and hesitation. Sponge trunk and arms with tepid water; mucilaginous drinks; in other respects, continue treatment as yesterday.

9th.—Passed an unquiet and restless night; general appearance as yesterday; much apathy and stupor; conjunctiva much reddened and injected; cheeks assume a dusky hue; tongue uniformly covered with a foul, yellowish brown coat; respiration hurried; skin rather dry, less hot, emits a strong offensive odor; pulse laboring, compressible; eruption appearing thickly on abdomen and chest, in the form of dusky red, irregular maculæ, isolated and in clusters, varying in size from one quarter of a line to a line and a half, or two lines in diameter; these spots seem mostly buried in the substance of the skin, and vanish under firm pressure; intermingled are a few measles-like eruptions of florid hue, which give a sensation of elevation as the finger is passed lightly over them; the spots also appear, though less vividly, on the shoulders, loins, and thighs; abdomen natural; urine high colored and

clear—three stools ; bland, farinaceous diet given regularly in small quantities ; tepid sponging of arms and trunk—liq. acet. ammon. R. Vin. puri, sol. sulph, quinquæ aa ꝑss. every 4th hour ; morphia in minute doses at night.

10th.—Took gr. $\frac{1}{2}$ morphia ; slept considerably after midnight ; increased prostration ; decubitus mostly dorsal ; tendency to slip down in bed ; delirious at intervals, manifested by low muttering ; no pain complained of ; face of leaden hue, dull and stupid ; eyes as yesterday ; tongue has a dark brown stripe in middle, flanked by moist yellow fur ; red at edges and tip—protruded with difficulty, breathing irregular, quicker—some cough ; chest natural on percussion in front, decidedly dull over whole back, more manifest inferiorly ; but little heat or dryness of surface—general sensitiveness ; slight tenderness at epigastrium ; abdomen full and soft—free from tympanites, tenderness, or pain ; spots more developed—more numerous—seen on abdomen, chest, extremities, and back ; pulse 100, of moderate volume, less compressible ; urine as yesterday ; two stools—character as yesterday ; some subsultus among tendons of wrists and fingers. Blisters to nape of neck, and sinapisms to calves of legs ; porter in small quantities. In other respects same treatment as yesterday.

11th.—10 A. M. Has slept constantly since midnight, having taken previously from $\frac{1}{2}$ to $\frac{1}{4}$ gr. morphia in divided doses ; increased prostration ; decubitus as yesterday ; no pain complained of ; constant incoherent moaning ; no decided delirium ; countenance as yesterday ; eyes much suffused and injected ; tongue protruded with difficulty—covered uniformly with a thick dark-yellowish coat, red on edges ; no sordes on teeth or lips ; breathing 40, short and laborious ; cough less ; percussion dull on back, somewhat so on sides inferiorly ; slight tenderness at epigastrium ; abdomen soft ; no pain or tenderness on pressure ; general surface of body sensitive, of darker hue than natural ; spots more distinct, larger, darker in hue, more apparent on extremities ; urine very high-colored, and passed involuntarily, as are also the stools which are more liquid and lighter ; no appetite ; much thirst ; pulse 104, very weak, small, compressible, regular ; subsultus rather more marked than yesterday—confined to tendons of extremi-

ties; stupor great, but not amounting to coma; comprehends questions when roused, but answers with hesitation. Sina-pisms to epigastrium, inside of thighs and feet; discontinue the porter; pure wine and beef-tea; omit morphia at night.

12*th*.—No sleep last night; moaned constantly; much restlessness and jactitation. This morning there is a general appearance of increased prostration; patient sinks down in bed; increased stupor; can still be roused to answer intelligently when repeatedly spoken to; has no pain; face still more dusky; capillary circulation feeble; eyes as yesterday; tongue the same; breathing 42, short, irregular, and laborious; some cough; very slight dulness on percussion observed anteriorly and inferiorly—on sides and back rather more marked; bronchial mucous rales; abdomen natural; spots more petechial; urine and *fæces* passed involuntarily; no appetite; thirst less urgent; pulse 110, very feeble, and compressible—somewhat irregular—same treatment; wine more often; morphia nocte $\frac{1}{4}$ gr., repeated in an hour, s. o. s. 8 P. M. Countenance more expressive of stupor and prostration; decubitus on side; breathing short and laborious; saliva dribbles from the mouth; pulse rapid and feeble.

13*th*.—Took $\frac{1}{4}$ gr. morphia; slept a little during the night; decubitus dorsal; slips down in bed; face of livid hue; eyes greatly injected; tongue protruded with difficulty, and slowly withdrawn—its coat darker and harder—some cough—epigastric tenderness; abdomen soft and full. No tenderness or pain; skin very hot, rather dry; breathing more laborious—hurried; pulse 112, very feeble and compressible—irregular and intermittent; no appetite; intense thirst; spots livid; urine and stools passed involuntarily; subsultus as yesterday; decided coma; intelligence much confused—answers incoherently. R. Vin. puri $\mathfrak{ss}$.; sulph. quinae, gr. j; ioidid. potass., gr. ij. M. Take every two hours. Beef-tea—toast water—liq. acet. ammon. p. r. n.

14*th*.—Took $\frac{1}{4}$ gr. morphia at 8 last night; slept for an hour or two soon after; prostration very great; decubitus constantly dorsal; stupor increased—the patient can still be roused to intelligence; face of a dull ashen hue; eyes continue injected; tongue protruded with difficulty, and not with-

drawn till requested, its coat more foul, browner; respiration laborious; sighing; cough less—apparently from inability; moans constantly; skin cooler; abdomen natural; spots livid, coalescing; intense thirst; slight subsultus; pulse 128, soft, compressible, feeble, regular; stools and urine voluntary; continue treatment of yesterday—flying blisters.

15th.—12 o'clock. Took $\frac{1}{4}$ gr. morphia at 8 last evening, which was repeated at 10; slept from midnight till 7 A.M. Nurse reports patient to have passed a more quiet and better night than heretofore; this morning expressed himself as feeling much better, and asked to sit up. On being raised by his attendant he fainted; has since made several efforts to speak, but failed to make himself understood; general appearance of extreme prostration; decubitus constantly dorsal; stupor great, but is more easily roused than yesterday; articulates very indistinctly; face of more ashen hue; eyes more injected, and darker; tongue protruded with less difficulty, very tremulous, returned more readily, its coat more dark and foul, livid at tip and edges; breathing more laborious, interrupted, irregular; but little cough; abdomen natural; skin fuliginous; spots disappearing; no thirst; slight subsultus around the mouth; less coma than yesterday; pulse 140, weak, very compressible, more regular. Continue the mixture every second hour; warmth to feet; flying blisters; efferves. mix. and beef-tea. p. r. n.

16th.—Since 2 o'clock A. M. has drowsed a little; general appearance worse; patient understands readily, but is unable to articulate; eyes more injected; tongue protruded with difficulty, very tremulous, swollen, fissured, covered with a hard, dry, yellowish-brown coat, livid at edges and tip; coughs very little; mucous rale distinct over whole chest anteriorly; breathing 50, short, laborious, interrupted; skin moderately hot, dusky; abdomen natural; subsultus continues; urine high-colored; stools dark, liquid, very offensive, passed involuntarily; strong and peculiar odor emanates from whole body; pulse 136, feeble, tremulous, rather less compressible. Continue treatment; stimulants more frequently, brandy, sinapisms to epigastrium and inside of arms and thighs.

17th.—Took $\frac{1}{2}$ grain of morphia; got three or four hours

of disturbed sleep during the night ; general appearance much as yesterday ; tongue more dry and hard, tremulous, swollen ; breathing 50, character as yesterday ; abdomen full and soft, no tympanites, pain or tenderness ; skin moderately hot, emits a strong offensive odor ; spots fainter ; subsultus increased ; pulse 128, feeble and tremulous ; urine scanty, very high-colored, offensive ; asked for vessel this morning ; stools scanty, dark-yellow, very foetid ; decubitus on back ; lies low in bed ; stupor still increased, but no marked delirium ; patient can be roused with great difficulty, and immediately relapses. Continue active stimulant and revulsive medicines.

July 8th, 18th day, 11 A. M.—In articulo mortis ; last evening at 8, signified a wish to be raised up ; had at that time a very dark, liquid, offensive stool ; has been unable to articulate or to swallow since midnight ; insensible to external impressions. Died at 2 P. M.

Autopsy 20 hours after death.—Subject well developed ; very muscular ; no emaciation ; moderate rigidity ; considerable discoloration of posterior portions of the body, the skin of those parts presenting a livid hue ; a few petechiæ observed the same as before death ; chest full and capacious ; abdomen soft ; no unusual distension.

Head.—Dura mater has on its external surface a considerable amount of dark blood collected in the form of irregular globules ; the membrane itself natural. Arachnoid transparent, its cavity contains an ounce of liquid serum, appearing, as seen through the membrane, like jelly in the channels on the surface beneath ; veins of pia mater moderately filled with dark blood ; no adhesion of the membranes to the surface ; cortical substance of the brain firm, of a pale ash color, its medullary portion also normal in color and consistence ; numerous points of black blood exude from its cut surface ; lateral ventricles contain each about a drachm and a half of pure serum ; venous congestion remarkably shown on lower aspect of cerebellum ; fluid in sub-arachnoidian space very abundant, distending the membrane at base of brain and commencement of spinal cord.

Neck.—Lining membrane of trachea somewhat reddened ; in other respects nothing worthy of remark.

Thorax.—No adhesions of lungs to ribs. Cavity of pleura contains only its usual amount of serum. Pulmonary tissue mostly firm and crepitating on percussion; the lower and posterior portions of both lungs condensed and somewhat engorged, nearly impermeable to air. At apex of right lung is found an old cicatrix, and around a few chalky concretions, the lower and posterior margin of the same lung splenitized; bronchia engorged with reddish mucus. Pericardium normal, contains its usual amount of serum. Heart slightly enlarged, its parietes flabby and soft, no marked injection of internal lining membrane—valves normal—soft greenish coagula of lymph found on right cavities—left ventricle contains a small quantity of blood—the blood in aorta dark, thin and oily.

Abdomen.—A layer of fat three-fourths of an inch in thickness under the skin. Liver of natural size, very pale externally, its texture not disorganized; vessels filled with black, dissolved blood. Gall-bladder full but not distended. Spleen natural in size, bluish-black color, its texture somewhat softened, filled with black fluid blood. Kidneys normal. Omentum loaded with fat. Stomach of moderate size; mucous membrane in its cardiac half paler than usual, presents a pinkish tinge at pyloric extremity; the membrane seems somewhat softened around cardiac orifice, yielding strips of only a line or two in length; in other respects presents nothing remarkable. Mesenteric glands small and firm.

Intestines.—Externally some slight discoloration at lower portions of ilium; along the line of attachment of the mesentery veins are manifest, moderately congested with dark blood; internally mucous membrane of small intestines natural throughout its whole extent. About eight inches from ileo-cæcal valve is a spot two and a half inches in length by an inch in breadth, of uniform congestion, an ecchymosis, apparently, of the sub-mucous cellular tissue; internal surface otherwise natural; follicles of Brunner and solitary glands not developed; Peyer's patches normal, seen with difficulty; colon contains a moderate quantity of fæcal matter, its mucous lining normal. Bladder normal.

CASE IV.—John Salter, age 45, a strong, muscular man,

was brought from ship Washington, in quarantine, to Deer Island Hospital, in an advanced stage of the fever.

Sunday, Dec. 26th.—He presented the following symptoms: extreme prostration and collapse, with cerebral and general nervous disturbance; coma; low, muttering delirium; irregular and hurried breathing; universal subsultus; violent contractions of flexor muscles of extremities; inability to speak; tongue protruded with great difficulty, swollen, hard, dry and cracked; teeth loaded with black sordes; pulse 150 and scarcely perceptible. His abdomen was soft and natural to the feel; stools and urine passed under him; the surface of his body emanated an unusually offensive odor, and was covered universally, with the exception of the hands, feet, and face, with petechiæ, irregular in form, of large size and livid hue. Directed warmth to extremities. Sinapisms to epigastrium and inside of arms and legs, blister to nape of neck, wine and brandy freely given.

27th.—No material change. Extremities cold; risus sardonius. Flannels wrung in hot water to be applied to extremities and head. Flying blisters. Stimulants pushed.

He died the following morning.

Autopsy.—Externally, no emaciation; chest large and full; abdomen soft, natural; no petechiæ. Adeps abundant over chest and abdomen.

Head.—Vessels of dura mater filled with dark blood. Arachnoid natural, a considerable amount of serum effused into its cavity, most apparent at points corresponding with parietal protuberances, where it appears like thin, transparent jelly. Pia mater considerably congested. Veins distinct between convolutions of cerebrum. On removing the membrane whole surface beneath appears somewhat reddened, more at base of anterior and middle lobes. Cortical substance normal in consistence and color. Medullary of slight violet hue, firm and natural; when cut numerous small points of dark blood are seen. Lateral ventricles each contain about a drachm of serum. Veins on floor of ventricles beautifully distinct. Cerebellum normal. Base of brain and commencement of spinal cord shows nothing remarkable.

Thorax.—Right lung shows old adhesions to the ribs

throughout its whole extent, a few traces of tubercles at its apex, its middle and lower lobes much engorged, particularly at posterior portions; inferior third of lower lobe friable, resembling in appearance a softened spleen. Left lung congested in its depending parts, otherwise normal. Bronchial tubes obstructed with frothy mucus. Pericardium natural. Heart large and flabby, its walls a little softened, contains in its cavities a medium quantity of greenish-yellow coagulum. Valves normal. Blood in aorta and large vessels fluid, dark and sizzly, its clot soft, readily broken down. The internal lining of both arteries and veins exhibits a peculiar oily appearance.

Abdomen.—Liver of natural color and size, its structure normal. Gall-bladder distended with a dark tarry fluid. Spleen natural in size, its texture easily broken down by the finger; contents dark, dissolved, grumous. Kidneys normal. Stomach natural externally, contains four ounces of grayish liquid; lining membrane coated with its own secretion, the mucous texture itself normal in consistence, affording strips seven or eight lines in length, its color also, for the most part healthy; near the cardiac orifices are seen patches of minute red points in clusters, with some surrounding redness.

Intestines.—Lower portion of ilium to the extent of two or three feet from cæcum, is somewhat discolored externally. Veins of mesentery distinct, dark, moderately full. Small intestines contain a medium quantity of thin grayish fluid; mucous membrane, to the extent of two and a half feet from the ileo-cæcal valve, is uniformly discolored and slightly congested, with a tendency to softening of its texture; elsewhere in all its extent normal in existence and color. No development of Brunner's glands or isolated follicles. Two or three of Peyer's patches are visible, presenting in a slight degree the *shaven beard* appearance, their mucous membrane being entire and healthy. Large intestine contains fæces of moderate consistence, its lining membrane and follicles natural. Bladder contracted. No alteration of mesenteric glands.

Observations.—In Case III, the characteristic features of the disease, its habits, symptoms, and pathological conditions, were well marked. It is an instance of direct contagion occurring in a subject of vigorous health, of fearless disposi-

tion and well tested powers of endurance. The accession of fever was violent. No symptom was engrossing. The morbid agent seemed to expend itself pretty equally on all the more important organs. There was marked prostration from the outset, and throughout the whole course a tendency to exhaustion of the life force. The duration was eighteen days longer than the average.

The case of Salter shows well the frequent manifestations of the disease as presented in those subjects brought into the wards in advanced stages, and who had previously experienced a combination of privations.

The *post mortem* developments in the two cases harmonize well. In neither was there any decided lesions of the brain; the presence of dark, dissolved blood in the sinuses and veins, and the slight effusion beneath the arachnoid, are all that arrest the attention. In the thorax the heavy engorgement of the depending portions of the lungs deserves notice. The contents of the abdomen were characterized rather by freedom from any important alteration. What most arrests the attention is the general dark fluid, and peculiar sizy character of the blood.

CASE V.—Cath. Gaffney, aged 18, landed from ship St. Petersburg, in quarantine, January 7, 1848. January 20th, was admitted to Hospital on Deer Island, about the 8th or 9th day of the fever—a well-marked case of ship typhus. About 30 hours before death, symptoms of jaundice appeared, though not then in a very marked degree. There was the yellow conjunctivæ and general discoloration of the surface, with the customary deep color of urine and light stools.

This patient had no delirium.

Autopsy, 16 hours after death.—Exterior: subject well developed, no emaciation. Muscles large and firm, of good color—much rigidity. Petechial spots on chest, shoulders, and loins, same as in life. Posterior portion of body shows a considerable number of livid patches—superficial, apparently in rete of skin. Chest well formed, and resonant on percussion. Abdomen moderately full and soft, without tympanites. Surface of shoulders, neck, and face, tinged with yellow.

Head.—A few points of dark blood on external aspect of dura mater. Longitudinal and lateral sinuses filled with black, fluid blood—arteries empty—the membrane itself normal; arachnoid transparent, and of usual thickness, with no effusion in its cavity. Pia mater natural; veins between convolutions distinct, moderately full and dark. No adhesion of membranes to each other, or to substance of brain. Surface of cerebrum slightly reddened generally. Cortical substance firm and of natural color. Medullary substance also normal in consistence and hue; its section presents only the usual minute dots of blood. Lateral ventricles contain their normal quantity of serum. Cerebellum natural. Base of brain natural. No unusual effusion in sub-arachnoid space. Medulla oblongata and commencement of spinal cord present nothing remarkable.

Neck.—Lining membrane of trachea is slightly reddened and covered with a thin reddish mucus—œsophagus normal.

Thorax.—Pericardium contains an ounce of thin, reddish serum; no adhesions to its contained organ. Heart of natural size; its walls of usual thickness and consistence; no reddening of its lining membrane; valves normal; a small quantity of coagulated lymph in left ventricle, coated with black, tenacious blood. A medium quantity of greenish yellow coagula in right ventricle. The blood contained in the cavities of the heart and in the aorta is unusually fluid and sily; its clot, when found, loose, easily broken down; the walls of large vessels smooth and shining, as though moistened by a fluid consisting of water and oil. No effusion into cavity of pleura. Lungs natural on anterior aspect, of grayish white color; crepitating on pressure. Right lung considerably engorged in lower and posterior portions of middle and inferior lobes. Left lung less congested than the other—crepitates in every part, with the exception of a portion of its apex to the extent of one or two inches, which is impermeable to air; no trace of tubercles discernible. Smaller bronchi filled with frothy mucus. Mucous membrane of large bronchi somewhat stained, but natural in consistence.

Abdomen.—A layer of fat, one half inch in thickness, beneath the skin. Omentum loaded with fat. Liver one-third larger

than usual. Color, externally and internally, and consistence, good—vessels gorged with dark, dissolved blood. No disorganization of structure in any part. Gall-bladder of moderate size, filled with greenish yellow, watery fluid. Spleen of natural color externally; five or six inches in length by three and a half in breadth; not softened; its contents dark and grumous. Pancreas normal. Stomach normal externally—contains a couple of ounces of thin straw-colored fluid. Around cardiac orifice, to the extent of about three inches, the internal surface is studded with minute red dots, the membrane being here somewhat softened—as also along greater curve for two-thirds of its extent. Pyloric third natural in color and consistence, the mucous membrane peeling off in strips of seven or eight lines in length.

Intestines, externally present slight discoloration along whole course of duodenum, some portions of jejunum and lower half of ileum, more in colon. Mesenteric veins dark, distinct and somewhat congested. Both small and large intestines nearly empty, containing only a grayish pultaceous fluid, adherent to their walls. Mucous membrane of duodenum reddened, with some thickening and softening. In the upper third of jejunum there is slight general congestion, but no manifest alteration of texture. Lower half of ileum slightly but uniformly engorged. Peyer's patches in half a dozen instances distinctly visible, with, in one or two instances, a little softening of mucous membrane, which softening also extends to adjacent surface. Colon contains no true faecal matter—its mucous membrane healthy. Brunner's and isolated follicles not developed. Kidneys natural. Mesenteric glands firm and small, none exceeding a pea in size. Uterus and bladder normal.

Observations.—This case presents nothing remarkable, if we except the jaundice which made its appearance a short time before death—a complication occasionally observed, and which has generally proved untoward. Death took place at an earlier period than usual. The autopsy harmonized with those previously made, with the exception of the enlarged liver and spleen, which have not usually been noticed.

CASE VI.—John McLaughlin, 23 years of age, landed from

ship *Washington* in Quarantine on the 15th of Dec. last. On the 29th of the same month was admitted to the Deer Island Hospital, being then in the first stage of the fever. Had, at time of admission, the usual preliminary symptoms of typhus. Dec. 30th, complained of headache, with pains in back, limbs and loins, and general soreness of muscles, well characterized by the bruised feeling before mentioned—hot and dry skin, dusky hue of face and surface generally, universal sensitiveness of body, and an eruption of florid maculæ appearing on shoulders, chest and abdomen.

On the 5th day from admission all the above symptoms were aggravated. Spots petechial and cover whole body except face, hands and feet—pulse 112, weak, feeble, compressible—a strong, offensive and peculiar odor exhales from the whole surface. On the 7th day pulse 120 and scarcely perceptible—prostration very great. The pulse came down to 112 again on the 9th day, still feeble and compressible. On the 13th pulse was 100 and a little stronger—general appearance improved. This improvement was of short duration, the preceding conditions returning on the following day.

These symptoms of prostration and general depression of the vital energy increased throughout the remaining term of the disease, there being no particular determination of its force to any part. There was, throughout, a dull headache, injected conjunctivæ, and a tendency to delirium at night; but the cerebral symptoms were at no time very decided. There was some cough, accompanied with slight bronchial mucous rale, and dulness on percussion at posterior and inferior portions of the chest. The abdomen was throughout free from pain and tympanites. A tendency to constipation was constant. The patient died on the 22d January, being the 29th day from the accession of fever.

Autopsy 64 hours after death.—Subject is of medium size, well developed. Emaciation very great, muscles flabby. Chest full and resonant. Abdomen sunken. No petechial spots; general discolouration of depending portions of body.

Head.—On removing the calvarium, sinuses of dura mater are found moderately filled with dark fluid blood—a considerable number of small globules of blood sprinkled over its ex-

ternal surface, no thickening or other alteration of the membrane. Arachnoid transparent, of the usual thickness; contains in its cavity a very small quantity of effused fluid. Pia mater a little congested. Veins between convolutions of cerebrum distinct, filled with dark blood. No adhesions of membranes to surface beneath. The brain has a slight uniform redness on its surface. Cortical portion firm, of natural color. Medullary substance likewise of natural color and consistence; a horizontal section reveals numerous minute dark points of blood. Half a drachm of pure serum in each lateral ventricle. On the lower aspect of cerebellum veins are more engorged than elsewhere; substance of cerebellum normal. Base of brain presents nothing unusual.

Neck.—Lining membrane of pharynx slightly reddened. Œsophagus healthy. Some reddening of mucous membrane of larynx and trachea; its texture normal.

Chest.—Each pleura contains in its cavity an ounce and a half of reddish serum; no adhesions between their surfaces; pleura itself normal. Lungs anteriorly grayish white, dotted on the surface with minute mælanotic spots, on their inferior as well as posterior aspect of a deep red hue, which is more intense in the depending portions. The substance of posterior of middle, and posterior and lower portions of lower lobe in right lung, and the same portions in lower lobe of left, is considerably engorged; a section of these parts presents a bright red color, and the larger bronchial tubes here contain a very thick, tenacious pus-like mucus. In other parts the bronchia contain a thin reddish frothy secretion. The whole pulmonary tissue crepitates between the fingers; no traces of tubercle in any part. Diaphragm is stained in the parts corresponding with engorged lung, which rests upon it. Pericardium normal—contains no effused fluid—no adhesions of its surfaces. Heart of natural size and appearance—its walls firm; right auricle and ventricle contain a small amount of yellowish coagulated lymph; left ventricle has a small loose clot of dark blood; a similar clot extends into the pulmonary artery. Valves normal. The blood contained in the heart and aorta is dark, fluid and sisy. Commencement of aorta contains a large firm coagulum of greenish lymph.

Abdomen.—A very slight layer of fat beneath the skin.

Omentum transparent, its vessels well marked. Liver natural in size; a few superficial livid patches on its external surface, in other respects color natural—its structure firm, of natural color—vessels filled with a grumous oily fluid; under surface of left lobe, and to the extent of two or three inches around the gall-bladder on the right lobe, stained of a deep turtle-green color. Gall-bladder of a bronze hue externally, its internal lining also of the same color; distended with a thick tarry fluid, which holds in suspension numerous minute granules. Spleen three and a half inches in length by two and three-fourths in width, natural externally, its internal structure firm, reddish brown; interspaces filled with dark grumous fluid. Pancreas normal. Kidneys normal in size and structure—their infundibula coated with a tenacious puruloid mucus similar to that found in the larger bronchia. Stomach of medium size, discolored externally along its greater curve; contains two ounces of a thick yellowish fluid. The color of its lining membrane generally is a dirty white—around cardiac orifice and along the lesser curve to the extent of three or four inches, mucous membrane is injected in patches and softened—there is discoloration and also some softening in the lower portions of greater curve; pyloric third of greenish tinge, the mucous texture firm, peeling off in strips of ten lines. *Intestines* are somewhat discolored externally, more in lower half of ileum; colon of greenish tinge. Small intestines moderately filled with yellowish semi-fluid fecal matter. Internally, duodenum is discolored and slightly injected in points—jejunum normal—ileum along its lower third uniformly discolored, the hue deepening towards ileo-cæcal valve—veins of sub-mucous tissue in this portion distinct, dark, congested, which condition is more marked where the general discoloration is greatest—the mucous texture in this portion of the small intestine is also softened; near ileo-cæcal valve two or three of Peyer's patches were manifest, roughened not raised, darker than the surrounding surface, their mucous membrane entire but softened—higher up a few more were seen obscurely, and presented the dotted appearance before mentioned. Colon filled throughout with softened feces, its mucous lining of greenish tinge somewhat softened throughout. No appearance of Brunner's or isolated glands. Veins of

mesentery distinct, moderately distended, dark. No alteration of mesenteric glands. Bladder about half filled with reddish yellow cloudy urine.

Observations.—In the preceding case the characteristics of the fever were strongly exhibited. The autopsy was necessarily deferred till a later period than usual after death; the increased discoloration in various parts, and the general softening of the mucous coat in the depending portions of the stomach as well as in a part of the small and throughout the whole course of the large intestines, seemed rather the result of cadaveric change.

[To be continued.]

ARTICLE III.—*On Puerperal Fever; with Cases*, By ROGER GRISWOLD PERKINS, M. D., of New-York.

FEBRILE symptoms occurring during the puerperal state may arise from miasma, as the typhus, remittent and intermittent fevers; from irritation, as the so-called milk fever, the weed, &c.—or from inflammation. If they arise from inflammation, the inflammation may be common or specific; and both kinds of inflammation may attack different organs in different cases. The common inflammation may be diagnosticated from the specific, even when it attacks the same organs, in different cases; and the organs attacked in one case may be diagnosticated from the organs attacked in another case, even if the kind of inflammation should be the same in both cases.

The inflammations to which the organs of generation and gestation and their envelopes are subject in a puerperal state, are, as said above, of two kinds—the common and the specific; and each of them may be divided in relation to the organs attacked, into four species—the peritoneal, the uterine, the ovarian, the vascular—any two or more of which may occur at once in the same case. These four distinct diseases have in most authors been described ‘en masse,’ under the general head of puerperal fever, because they are all more or less accompanied by febrile symptoms. From this fact has arisen a discrepancy among authors, in their descriptions of the disease,

which, if they had more attended to the *organic lesions*, would not have happened.

Thus one author, under the name of puerperal fever, describes a list of causes, symptoms and treatment which belonged to a case of metritis. Another gives a history of a peritonitis, under the same general head as the first. The first cures his with purges—the second kills his by the same means. If authors had paid more attention to the *kind* of inflammation, there would have been less discrepancy in their descriptions. Thus one gentleman details a case which he has cured by copious blood-letting, under the general name of puerperal peritonitis, which may have been, and very likely was, a *common* peritonitis, occurring in the puerperal state; while another, under the same name—puerperal peritonitis—treats a specific peritonitis occurring in a recent mother in the same way, and she dies.

The proper way to avoid these discrepancies, is either to drop the term, puerperal fever, altogether, or else employ it as the patronymic of a family of fevers—which family of fevers are the peritoneal fever of the puerperal state—the uterine, the ovarian, the vascular—and in the details of a case of either, the kind of the inflammation which gives rise to the febrile symptoms should be stated.

These preliminary remarks have seemed to me to be necessary, previous to entering upon the object of this paper, which is the history of an endemic occurring among the lying-in women in the 'Shatzel' Department of the Colored Home Hospital during the winter of 1850–1, while I was House Physician to that institution. I now proceed to the history of the endemic, all the cases of which are cases of specific inflammatory puerperal fever, in one of its forms. I shall first consider the *causes* which led to its appearance.

Secondly, state the symptoms, treatment and result of the cases, individually considered, together with the post-mortem appearances when the case resulted in death.

Thirdly, I hope to be able to show the treatment resorted to in the different cases to have been proper, and founded on the organic lesions, and moreover that successful treatment in these forms of disease, depends, not upon specifics, but upon

the adaptation of different remedies to the pathological anatomy, found in different cases.

In the first place, then, as to the cause of the endemic: I have every reason to believe that a post-mortem examination of the body of Mary Murray, who was brought into the Hospital on the 25th of November; 1850, and who died, in an hour after admission, of a peritonitis, which had resulted in a purulent effusion, was (through the necessities of the case) the prime cause of the endemic which followed. The proofs of its introduction by these means are both negative and positive. On the side of the negative proof—i. e., among the reasons why the endemic could have had no other cause, we have the following: The wards before the introduction of this most unfortunate case were, and had been for some time previous, in a high state of cleanliness and order. The success which had attended the treatment of all forms of disease throughout the institution, had, in consequence of the more than usual tendency to recovery, even when unaided by medicine, been at least remarkable.

The site of the building of the institution itself, occupying as it does an eminence near the banks of the East River, and entirely cut off from the ordinary sources of disease connected with densely populated districts, is high and airy. There is great freedom of perfilation and ventilation allowed by its position. And lastly, since the Hospital was removed from 42d street to its present site, there had been no cases of puerperal fever in its lying-in wards, till the occurrence of those about to be detailed.

And now for the positive proof of the introduction of the disease by this post-mortem—viz.: the first case which occurred was delivered by the same hand which made the autopsy, on the afternoon of the day on the evening of which the woman was delivered. This last, in connection with the foregoing reasons, has led me to a conviction as to the cause.

CASES.

The first case was Sarah White. She was delivered on the 26th of November, 1850. I made two vaginal examina-

tions. After a more than ordinarily painful labor, she was delivered of a living male child. The placenta came away readily, although accompanied by more than the usual amount of blood. About an hour after the birth of the child, she fell asleep, and continued comfortable through the night.

27th, morning.—Patient doing well, lochia present; breasts beginning to be tumid, and slightly painful. Ordered ol. ric. $\frac{1}{2}$ ℥.

Afternoon.—Patient's bowels have been gently moved by the oil administered this morning. There are periodic pains in the region of the uterus; a small quantity of milk can be pressed from the breasts; skin rather warm and dry; pulse 90; no tenderness over the abdomen, lochia continues.

28th, morning.—Patient comfortable; afterpains ceased; flow of milk established; lochia continues; no pain on pressure over the abdomen; pulse 90.

Evening.—Patient says she has felt cold once this afternoon; is now quite warm; has slight headache; pulse rather above 90; says she feels quite feverish, and thinks her bowels should be moved, although they moved this morning; tenderness on pressure uncertain; lochia continues.

12 o'clock.—Was called to patient and found her in convulsions; she had had several before she was reached, of the most distressing character. Pulse 120. She was bled to the amount of 24 ounces, when syncope was produced. In half an hour the convulsions came on again, and blood was taken from the other arm to the amount of 12 ounces, when syncope was again produced. The convulsions returned with the action of the heart, and she had thirty of the most distressing fits I have ever seen. After a while they ceased, when patient was put upon the mercurial treatment.

R. Hyd. Submur., grs. iij.

Pulv. Opil, gr. $\frac{1}{2}$.

M. ft. pulv. Take every third hour.

29th.—Patient feels quite comfortable, but has now and then a shooting pain through the abdomen. Tongue slightly furred white. Pulse 112. Abdomen tympanitic and enlarged. Uterus *not enlarged*. Slight pain in the region of

the right ovary. No trouble in micturition. Lochia continues. Med. continued; powder every third hour.

30th.—Patient not so well. Pulse 140. Pain in abdomen increased. Tympanites as before, and a settled pain in right ovary; uterus increased in size; lochia stopped. Milk stopped. Ordered hot fomentations to vulva and abdomen. Doubled the quantity of opium in each powder.

Dec. 1st.—Patient's bowels moved during the night. Patient is under the influence of mercury. Calomel stopped, but opium continued in the shape of pulv. Doveri. All the symptoms are better. Even the pulse, although 120 in frequency, is more full, and not by any means so quick.

Dec. 3d.—A relapse has occurred. The pulse is again thready and quick, and retains its frequency. Uterus much enlarged. Abdomen tympanitic. Pain in both ovaries. Lochia ceased, and the most exquisite tenderness on pressure over the abdomen. Patient still under the influence of mercury, as detected in the breath and state of the gums. Warm fomentations and pulv. Doveri continued.

Dec. 6th.—Patient is evidently sinking. Has lost all pain. Pulse 130. Tongue furred dark brown. Diarrhea and efforts at vomiting. Patient's mind clear, and such has been its condition since the commencement of her sickness. Ordered stimulants diffus.

Dec. 10th.—Patient moribund. The vomiting has been stopped by mustard-plaster upon epigastrium. Tongue covered by dark fur.

Dec. 11th.—Patient dying. Stimulants continued. At midnight patient died.

Post-mortem on the following day showed the abdomen filled with dark greenish coloured pus. Uterus in a state of gangrene, and both ovaries completely disorganized. I could detect no phlebitis in this case: *i. e.*, I found no coagulable lymph or pus in the veins examined.

CASE II.—J. P——n was delivered on the 15th of November, while there was no fever in the house, and progressed finely towards a good getting-up, until the 30th of November, just 15 days after the birth of her child. On this day she

called my attention to an intense throbbing pain in the hypogastric region, which she said had followed a severe chill. On placing the hand upon the region of pain a tumor could be distinctly felt; I supposed it to be the uterus. On learning the urine had been retained for some 18 hours, I passed the catheter and withdrew a large quantity of water. I then placed my hand upon the fundus of the tumor, and the index finger of the other hand in the vagina. By pressing upward with the finger introduced, the hypogastric tumor was perceived to be the enlarged uterus. The lochia had ceased. The vagina was hot and dry. The pain in the lumbar region was excessive. Headache and pains in the bones were also present. Pulse 98; full, resisting and slow. Patient was cupped over the hypogastrium. 8 oz.

R. Calomel, grs. v.

Ipecac. Pulv., grs. v.

Opil Pulv., grs. x.

M. fiat pulv. in No. v. Dose one every two hours.

Nov. 30th, afternoon.—Patient is somewhat better. Has taken two powders. Has not had any pain above the umbilicus from the first. Has nothing but the pain in the lumbar region, and the heavy, steady, dull pain in the hypogastrium.

Dec. 1st.—Patient has had an exacerbation of pain during the night. Has taken all the powders. She felt better this morning, however. Pressure over the womb is allowed more tamely than yesterday. Size of the tumor the same. Bowels moved once this morning. Urine drawn. R. pulv. Doveri, grs. x. To be taken immediately.

Afternoon.—Gums tender. Bowels running off with bilious evacuations. Pulv. Doveri continued. Size of tumor not perceptibly diminished.

Dec. 2d.—Salivation established. Tumor beginning to decrease. Ordered tannin wash for mouth, and a grain of opium in case of much pain.

Dec. 3d.—Patient is doing well. Has taken two pills of opium. Urine drawn. Tumor still less. Pulse 82. Diarrhea ceasing.

Dec. 4th.—Patient is doing well. Perspires freely. Urine

drawn without the use of the instrument. Bowels moved twice in the last 24 hours. Mouth slightly sore. Lochia re-established.

Dec. 7th.—Mouth nearly well. Tumor not felt. Lochia.

Dec. 10th.—Patient allowed to sit up.

Dec. 16th.—Patient discharged from lying-in ward to nursery, with child. The secretion of milk was lessened, but did not cease altogether during the whole course of her sickness, and was wholly restored at the time of her discharge.

CASE III.—At this stage of the endemic, I resolved, with the approval of Dr. James D. Fitch, Resident Physician of the Institution, to resort to the treatment suggested and so successfully adopted by Professor Clark, of the College of Physicians and Surgeons.

Mary Thompson was delivered of a male child on the night of the 16th of Dec. There was considerable bleeding. After delivery the woman fell asleep, and remained comfortable till morning.

17th.—Some afterpains. Ordered ol. ricini, which produced a full evacuation.

18th.—Milk and lochia. Pulse 78. Bowels moved naturally.

Afternoon.—Patient has had a chill. Both milk and lochia are ceasing. Pulse 86.

R. Pulv. Doveri, grs. x.

19th, morning, 6 o'clock.—Patient cannot contain her shrieks, for pain shooting through her abdomen. Lochia very little. No enlargement of the uterus that can be felt. Abdomen tympanitic and greatly distended. Tender on pressure. Pulse small, thready, incompressible, quick, and 120 in frequency. Urine in small quantity, withdrawn by catheter. Patient was perfectly sensible, and I gave orders she should take 10 grains of opium every hour until the pain ceased entirely. Hot fomentation to abdomen and vulva.

9 o'clock.—Patient's pain continues; is somewhat less.

12 o'clock.—Patient has some pain.

2 o'clock, P. M.—Patient has no pain; has broken out into

a profuse perspiration. Lochia increases. No milk. Pulse 104, soft and compressible. Abdomen slightly tender and tympanitic. Pupils contracted. Slight nausea. Ordered empl. sinapis. upon epigastrium, and hot fomentations continued. I left her sinking gradually to sleep; sweating profusely. She remained in bed a week longer, with no return of pain. Her pulse continued 104. Slight pain on pressure over abdomen. Bowels did not move. Milk was plenty, and lochia present.

Dec. 27th, noon.—Patient has been up contrary to orders. The most intense pain has again come on, beginning in the right iliac fossa and darting upward to the sternum. Abdomen excessively tender on pressure. Urine retained; skin hot; pulse 108, wiry and quick. I cannot tell if the uterus is enlarged. Lochia less. Again enormous doses of opium were resorted to—having no boundary but the cessation of pain. The effect upon the pulse was remarkable. After, by the gradual administration of the drug, the amount had reached twenty grains, the pulse went up from 108 to 120. Its use was continued, and when 40 grains had been given, the pulse fell to 104 gradually, and patient broke out into a profuse sweat.

4 o'clock.—The pulse has again increased to 108 in frequency. The pain seems about to return.

Dec. 28th.—Patient has taken 10 grains of opium per hour till the present 10 A. M. At this time pain has ceased, and she is sleeping. She perspires freely.

Evening.—Urine withdrawn. No pain, but is to take a grain per hour during the night, if awake. Pulse 104.

Dec. 30th.—Patient has had no pain 'worth speaking of.' Abdomen tender and enlarged. *Fluctuation in abdomen.* Pulse 104. Skin warm. Tongue has a white fur upon it. Uterus not perceptibly enlarged.

Jan. 3d.—Fluctuation more distinct. Pulse 104. No pain. Bowels moved.

Jan. 5th.—Was called to patient in the afternoon. Found her in a high state of febrile excitement. Pulse 110. No pain, but a general uneasiness. Skin hot. This state was preceded by a chill, and was followed by a sweat. Ordered pulv. ipecac. gr. i., every hour to promote diaphoresis.

I visited her every hour till 9 o'clock, finding her always in sleep, and sweating profusely..

9 o'clock.—I was sent for. Patient had awakened suddenly from sleep, with a cry and a shiver, and had since been delirious without violence, but wandering. Pupils alternately contracting and dilating. Knew no one about her. Eyes set; hands and feet cold. Pulse 120, small and weak. Tongue had a brown fur upon it. Head very hot. Ordered external heat; cataplasms to extremities; diffus. stim. Before these things could be got ready, the *pulse had left the wrist*. Reaction took place, and in one hour she was in a high state of fever, with the pulse up to 120. This was followed by a sweat, which was brought out by $\frac{1}{2}$ oz. tinct. opii.

At 4 o'clock in the morning I left her sleeping, with no pain, and still in a perspiration. She continued to sweat till noon next day, when she had another chill, fever and sweat, and to-night complains of nothing. She is still sweating. She wishes a sleeping draught. Ordered tinct. opii, $\frac{1}{2}$ oz.

Jan. 8th.—Last night patient slept well. I saw her every hour in the night. Each time she was sweating. I seem to detect a sour odor in the perspiration. These symptoms seemed to me to depend upon the absorption of changed pus, and therefore

R. Hyd. Pot., grs. iij.

Tinct. Opii, $\frac{3}{4}$ ij.

Aqua Font., $\frac{3}{4}$ iv.

M. fiat solutio.

Dose half oz. every 8 hours.

Jan. 10th.—Febrile symptoms have disappeared. Patient has no pain; bowels moved by comp. tinct. aloes; pulse 98; appetite inordinate; farinaceous diet.

Jan. 20th.—Patient a confirmed convalescent; walks about the ward; pulse 86; feet œdematous, and patient generally much emaciated; bowels regular. Ordered bandages to extremities and nourishing diet.

Feb. 1st.—Well enough this day to attend the christening of her child.

Feb. 12th.—Entirely well to all appearance; discharged about a fortnight after to go to service.

I have seen this patient since her discharge; she is quite healthy, and has rapidly gained her lost flesh. Her milk was effectually dried up by the amount of opium she took, and has not returned. She needs and takes no medicine.

CASE IV.—A—— W—— was delivered after a tedious labor of 48 hours, of a boy, at 8 o'clock, P. M., Jan. 5th, 1851. After delivery patient fell asleep, and remained comfortable, with occasional afterpains through the night.

Jan. 6th.—Bowels moved this morning by castor oil; pulse 82; lochia and milk; no afterpains; tongue clean.

Jan. 7th.—Patient doing well; bowels moved; pulse 80; tongue clean.

Evening.—Has slight pains in os frontis; skin rather hot; pulse 86, and somewhat quick; abdomen slightly painful on pressure. R. pulv. Doveri, grs. x. To be taken immediately; left orders to be called, if patient should have more pain during the night.

Jan. 8th.—Called at 8 o'clock in the morning: patient has slept but little during the night. Skin hot and dry; eyes glassy; tongue clean; pulse 128, quick, wiry and incompressible; intense pain shooting up from the right iliac fossa towards the sternum, causing her to cry out with agony; very much pain on pressure over the abdomen, which is tympanitic; respiration high, and at the end of every inspiration a sharp pain shoots downward through the abdomen; patient lies with legs flexed upon the thighs, and thighs upon the pelvis; urine retained; introduced the catheter; small quantity of water withdrawn; lochia present; no enlargement of the womb discoverable. R. tinct. opii, 1 oz. to be taken at one dose immediately; ordered warm fomentations to abdomen.*

9 o'clock, A. M.—Pain is much less, but there is slight pain still; pupils contracted; pulse 128; R. tinct. opii, 3 ii.

* Attention is called to the violence of the symptoms, in defence of this, and the large dose in the next case, admitting no doubt as to diagnosis.

12 o'clock.—Patient has been sleeping half an hour; breathing regular; left orders to be called when patient waked.

8 o'clock, P. M.—Patient has just awoke; she is sweating profusely; pulse 114; no pain. Ordered pulv. Doveri, grs. x.

Jan. 9th.—Patient slept well; has lost all pain; feels quite well; lochia, which have continued throughout, have come on profusely.

Jan. 12th.—Bowels moved with but slight pain; patient kept very quiet in bed; diet meal gruel; nothing else.

Jan. 15th.—Patient wishes to rise; bowels moved; diet farinaceous.

Jan. 20th.—Discharged from lying-in ward.

CASE V.—A. B——n was delivered 25th Dec., of a girl; has a fibrous tumor on the fundus uteri, making the whole organ equal in size to a child's head; bowels were moved the day after delivery; afterpains gradually ceased; every thing went on well till

Dec. 29th, noon.—Called to patient; found her with every symptom of peritonitis, and with a pulse of 130; lochia free; milk less; the symptoms were very much the same as in the foregoing case, No. IV. Ordered tinct. opii, 1 oz. to be taken at once.

P. M. 8 o'clock.—Patient's pain is less; ordered a repetition of the dose; hot fomentations to abdomen.

Midnight.—Saw patient in sleep and perspiring.

Dec. 30th.—Patient has slept 9 hours; has just waked; feels perfectly well; pulse 104, soft. R. pulv. Doveri, grs. x.

Dec. 30th.—Evening. Patient complains of nothing.

Jan. 3d.—Patient doing well; pulse 92; bowels just moved.

Jan. 4th.—Pulse 86; diet farinaceous.

Jan. 14th.—Discharged from lying-in ward.

CASE VI.—Blandinia West was delivered Jan. 28th, 1851, of a dead child; breech presentation.

Jan. 29th.—Bowels have been moved by ol. ricini, without pain; lochia free.

Afternoon.—Complains of headache, and abdominal bandage too tight; bandage loosened.

Evening, 8 o'clock.—Has had a severe rigor; reaction has come on; pulse 118; patient has had shooting pains in the abdomen since about 5 o'clock; abdomen is exquisitely sensitive to pressure; lochia and milk stopped; vagina hot and dry; uterus *seemingly* enlarged; there is so much tympanites it is impossible to be *certain* whether the uterus is enlarged. Ordered tinct. opii, 1 oz. Cataplasms to abdomen, and hot fomentations to vulva.

10 o'clock, P. M.—Patient retained the opium, though she suffered considerable nausea from it; patient has no pain, but is in very low spirits and great despondency as to the result of her sickness.

1 o'clock in the morning of the 30th.—Patient was sleeping; skin hot and dry; pulse 116—perhaps 118.

9 o'clock.—Patient has but little peritoneal pain, but there is present a dull, heavy burning pain just over the pubes; lochia still absent; tympany less; hypogastrium tender; size of the uterus slightly increased; pulse 106. Ordered hot fomentations to abdomen and vulva; she continued in the above condition during the day.

Feb. 1st.—This morning patient had a chill, followed by a cold sweat, in which last I found her; she is gazing vacantly upward; semi-comatose—answering only when loudly spoken to, and then only by a movement of the head, slow and doubtful; she shrinks from hypogastric pressure; feet and hands cold; tongue covered with dirty white fur; pulse 120; small and weak. Ordered external warmth and stim. diffus.

In a few moments the extremities were warm, but the semi-comatose state continued; fæces passed involuntary; urine dribbling from the meatus; bladder contains hardly any water; on examining the vulva and parts adjacent, I find a dark red line extending down the inside of the thigh, which seems the result of inflammation of the cutaneous veins, also, the cutaneous veins can be traced, seemingly injected, upon the integuments of the iliac region, and some ways up toward the umbilicus. Being convinced that the patient was suffer-

ing from phlebitis, in which the veins of the uterus were perhaps involved, and having seen good results follow the exhibition of the Hyd. Pot. in cases of pyemia administered by Dr. Edwardus Webber, a gentlemen of the highest accomplishment in every thing pertaining to professional knowledge, I determined the patient should take the following:—

R. Hyd. Pot. 3 ij.
Tinct. Opii, ʒ ij.
Aqua Font. ʒ iv.
M. Dose ½ oz. every two hours.

Feb. 2d.—Patient has come out of her semi-comatose condition; urine drawn in large quantity; high colored and turbid; the evidences of a poisoned nervous centre, arising from absorbed pus, have disappeared; pulse 98.

Afternoon.—Patient doing well; beginning to perspire; pulse 98.

Feb. 3d.—Patient has lost all pain, but the color of the inflamed cutaneous veins is not changed from its appearance yesterday; patient in good hope; quite lively; sweating continues.

Feb. 6th.—Patient has taken no medicine since yesterday morning; feels perfectly well; no traces of inflammation in the cutaneous veins referred to above; ordered rest in bed.

Evening.—Bowels moved naturally, and without pain.

Feb. 10th.—Patient convalescing, but feels very weak; diet nourishing.

Feb. 16th.—Allowed to rise; extremities swelled; in right ankle joint fluctuation is distinctly felt; ordered bandages, and

R. Hyd. Pot. 3 ii.
Aqua Pura, ʒ vj. Dose ½ oz. three times per diem.

Feb. 20th.—Swelling disappeared.

Feb. 24th.—Discharged from lying-in ward.

The history of the six cases given above has been taken from notes made at the time the disease prevailed in each individual patient. If any incompleteness is observed in their narration, it will be remembered the record was, when made, intended to appear in no such place as this, but simply as a

memoranda of interesting and difficult cases. I have changed nothing nor added any thing, as at this distance of time, any interpolation might be open to objection and perhaps mistake.

In the review of Case I., I have but little to say. As the symptoms indicated, and the post-mortem proved, there was a gangrenous peritonitis accompanied by a purulent effusion, and ovaritis resulting in complete disorganization. She was treated as have been thousands of women in the same disease, and with the same lamentable result. The grand mistake being in depleting a specific inflammation, instead of palliating the most distressing symptoms of pain, and allowing the disease to cure itself before the patient is worn out by suffering.

Now in Case No. III., in which opium was given in such enormous quantities, a case, observe, of peritoneal fever, the results were sufficiently satisfactory, though not the happiest which could have been wished. The large doses of the drug, through their effect in removing the sense of pain, husbanded the strength of the patient in such a manner, that, though the inflammation went on to effusion, and as I firmly believe, of pus—the system was able to recover from the shock, and absorb the effusion assisted by the remedies proper for such cases. Let me not be misunderstood as saying that opium possesses no curative properties in this disease, aside from those included in lulling the patient's pain, and consequently saving her strength until it shall be needed to recover from the shock of the disease.

I think I have every reason to believe from the experience gained in Cases IV. and V., that when the disease first makes its appearance, the effect of opium upon it by keeping the intestines perfectly still, by promoting diaphoresis and sleep, and by these means allowing the circulation to resume gradually its wonted current—is essentially curative. I am also inclined to think, that if in Case No. III. I had been governed by the pulse, as to the amount of opium given, rather than by the point of relief from pain, there would have been no effusion.

In Case No. II. there was no peritonitis, but there was evident metritis. This was rendered probable by the suppression of lochia, and certain by the additional fact of the enlargement of the organ.

The benefits arising from the constitutional effects of mercury upon parenchymatous inflammations have been long known. The good results of topical depletion are also acknowledged; and, as this treatment was successful in the case given above, and as it was proved so in other cases of common inflammation of the womb, I see no reason why it should not be generally employed.

Inflammation of the womb is not uncommonly accompanied by phlebitis of the organ. Lest, by the installation of the effects of opium, the symptoms of inflammation of the womb might be so disguised as to lead to the supposition of a phlebitis which did not exist, I should in general avoid giving it in large quantities.

It remains to refer to Case No. VI. The commencement was an attack of peritonitis, which was relieved by the opium; but metritis followed, or may have accompanied it; but it was impossible during the existence of the peritonitis to diagnose this from the pain occasioned by the pressure upon the hypogastrium necessary to form an opinion. This metritis was accompanied by phlebitis of the leg, and, in all human probability, of the uterus. The disease yielded, and she recovered under the hyd. pot. By reference to the case it will be seen that there is good reason for certainty that the diagnosis was correct. This drug was used with great advantage in Case No. III., where I had every reason to suppose the hectic fever, which was present, depended upon the absorption of pus. The superiority of this medicine in the promotion of absorption of effete matters and conveying them from the system, over any other drug which is used for a similar purpose, is so apparent it would be useless for me to enlarge upon it.

It will be noticed that the lochial discharge ceased entirely in the case of metritis; that in the case of phlebitis of the womb it was very much lessened, and that in all the other cases it was decreased but slightly. Hence, it would seem that absence of lochia depends more or less upon metritis; and that, unless this state exists, the lochia will continue, though lessened by the general febrile state of the system. It will also be noticed that the pulse in Case II. was larger and more full, and at the same time less frequent than in the other cases;

this fact, in relation to the pulse, has been many times observed in parenchymatous inflammations.

From the experience gained in the cases cited above, the doctrines of a specific treatment for puerperal fever is abandoned by the writer. Because a woman has child-bed fever it is no sign she should be deluged with opium; but if these febrile symptoms, occurring in child-bed, depend upon an inflammation of the peritoneum, opium should be withheld just this side of narcotism only; and the rules for diagnosing peritonitis are laid down in books; and what are wanting in books must be made up from experience. Neither because a woman has puerperal fever must enormous doses of iod. potassium be thrust into the stomach; but if the physician has reason to believe uterine phlebitis exists, it seems to the writer his duty to, at least, try the remedy named, and which has been so successful in his hands.

I do not know whether opium has cured a case of puerperal *metritis* uncombined with any other lesion or not; but I know that the only patient I have ever treated for the disease was cured by *mercury*, or, at least, recovered under its use; and, if allowed, I should treat a hundred cases in the same way.

My experience as to the effects of *blood letting* in puerperal fever amounts to this: I, in obedience to the dictates of Gordon, Armstrong, and almost every other author who has ever written upon the subject—from Hippocrates and Avicenna, down to him of distinguished reputation, Professor Meigs of Philadelphia, bled a woman to syncope twice; and she died with typhoid symptoms. I will not say that I shall never bleed another; for, in certain cases of marked plethora it may be advisable; but as a general thing, I shall as soon think of bleeding in typhus fever.

ART. III.—*On the Communicability of the Cholera Asphyxia.*

By JOHN W. STERLING, M. D., Assistant Physician of the Marine Hospital, Quarantine, N. Y.

NOTWITHSTANDING this disease has been presented to the medical profession so frequently that we have been surfeited with

it almost *ad nauseam*, yet whatever light can be shed upon its communicability, or upon the means of arresting its progress, cannot fail to be important; and as it is possible the following narration may tend this way, I will as briefly and clearly as I can give a sketch of the visitation of the cholera at the Marine Hospital, in October, 1851 :

On the 21st Oct., Julia McCartney, aged 18 years, who had arrived from Liverpool in the Isaac Webb on the 20th Sept., was sent from the city to the Marine Hospital with typhoid dysentery, or rather putrid diarrhea of a most formidable character. She was admitted into Ward No. 2, of the Lower Hospital, and into the middle room. Her evacuations from the bowels were copious, intermingled with dark-colored blood, and the fœtor arising from them was so intolerably offensive as to impregnate the ward to such a degree that free ventilation and the liberal use of disinfectants could scarcely dispel it. The usual remedies were of no avail in arresting these evacuations, and she died on the 25th, four days after her admission.

On the 21st also, Bridget Cunningham, aged 45 years, who had arrived in the Hemisphere from Liverpool on the 1st September, was received from the city into the south room of Ward No. 2, in a cold congestive state. Her skin was pale and cool, pulse flat; voice natural, no perceptible secretions or excretions. Various efforts, by means of external and internal stimuli, were made to produce reaction, but unavailingly. Brandy was given liberally, but produced no excitement; and as the woman said nothing would cure her but whiskey, a bottle of which was tied up in her bundle, on the evening of the 23d I ordered her bundle to be brought into the ward and opened. The bottle was found, but the whiskey was not. The contents of this bundle were neither positively clean nor filthy, and evolved no peculiar odor. About four or five hours after this the cholera broke out in this ward. This fact may have had nothing to do with its outbreak; but as the cholera did exist at Cow-bay near the Five Points about this period, and as we could not ascertain where this woman had lodged in the city, I thought I would note it.

On the 20th of October, Mrs. Mary McMahon, aged 38 years, with her daughter Mary Harvey, 11 years old, were admitted

into the same ward and room from the city ; the former with acute pleurisy, the latter with fever. They arrived four days previously from Liverpool, in the packet ship *Liverpool*.* About 10 P. M. of the 23d, the mother, and, half an hour afterwards, the daughter were violently attacked with incessant vomiting and purging of light-colored liquids, attended with faintness, upturned eyes, &c. The nurse applied external warmth, sinapisms to the stomach, wrists and ankles, gave them ten drops of spirits of camphor and afterwards brandy and water. These means failing to arrest the discharges, I was sent for. I found them both lying in one bed (though previously to the attack they had been in opposite corners of the room, three beds intervening); pulseless, whispering and almost inaudible voice in the elder, shrill in the younger, and with other symptoms of the cholera. The mother died at 4½ P. M. on the 24th ; the daughter lived until a quarter past two A. M. of the 25th.

While attending these two patients, about 1 o'clock A. M. of the 24th, Mary Ann McVey (admitted into the hospital on the 20th of October, and who had arrived in the Hungarian from Liverpool on the 13th of said month), occupying a bed in the corner of the same room diagonally opposite to that of Mrs. McMahon, called out, "Doctor, Doctor." I went to her bedside, she complained of her head feeling cold. I felt for her pulse, applying my fingers to both wrists, but could not detect it. Her countenance was scarcely shrunken, neither was it dark like that of the two former. Five hours had scarcely elapsed, however, ere she voided copious thin dejections, which soon assumed the rice water character, and afterwards became less profuse. She died with all the symptoms of cholera at 3 A. M. of the 26th.

* Dr. A. H. Stevens in a communication to the Legislature of N. Y., Document No. 146, March 9th, 1849, states :—"The papers this morning inform us that a vessel from Liverpool had arrived at the port of New York with 400 passengers, forty having died of cholera during the passage. †

† Arrived.—The ship *Liverpool*, Capt. Eldridge, from Liverpool, having lost some forty passengers at sea by sickness supposed to be cholera, and having many on board still sick. The ship was officially visited by Dr. Whiting the Health Officer, and there is now no longer any doubt that the cholera is and was on board that vessel.—*Courier & Enquirer*, March 8th, 1849.

About 11 o'clock A. M. of the 24th, Cath. Burns, aged 50 years, who arrived in the Washington on the 3d of June, and was admitted into the hospital October 9th, was seized with this disease. She had occupied the bed next to that of Mary McMahon (the woman first attacked), and had been transferred to a distant apartment. She was attacked with vomiting, soon succeeded by copious dejections, half a gallon at a time, to arrest which a pill of opium was administered. She was removed to the cholera ward, where she became collapsed but recovered from this disease. Subsequently, however, she was severely afflicted with profuse purulent discharges from enormous abscesses in the sacral and parotideal regions, and eventually died with typhoid dysentery on the 17th of December.

The next person attacked was Julia Spillan, on the afternoon of the 24th Oct. She had been brought into the hospital four days previously directly from the ship Wm. Hitchcock, and was put to bed in the room adjoining that in which the cholera broke out. She had been removed, with the other patients to a remote part of the building, but, so soon as the disease manifested itself in her, was conveyed to the cholera ward. She died on the 25th at 5 P. M. In this I administered the subnitrate of bismuth, which arrested the vomiting; but the other symptoms assumed a more aggravated form, and the glimpse of hope previously entertained was thereby utterly extinguished.

Next came Ann Goodwin, 11 years old, who was admitted into the hospital on the 15th of October, and lay in the room adjoining that in which the cholera appeared, when she was removed to a more distant apartment. She was attacked on the morning of the 25th, and immediately re-transferred to the cholera ward. This girl recovered from the cholera, but still remains in the hospital, having been the subject of febrile and other affections which are often the sequelæ of this disorganizing malady.

Mary Devine, brought from the ship William Hitchcock with typhus, October 2d; was placed in bed in the room adjoining the cholera ward, but with others likewise removed to a distance. She was seized on the 25th at 10 A. M., and re-

conveyed to the cholera room. Discharged cured on the 24th of November.

Margaret McEvoy arrived in the Isaac Webb on the 22d of May, and was admitted on the 1st October with typhus; afterwards had intermittent fever. She at first occupied the cholera room, from which she had been removed, and again brought back when seized with the disease, which was at 8 o'clock A. M., of the 26th. Discharged cured December 9th.

The last case was Anne Stewart, who was admitted from the ship Ottawa on the 18th of October with typhus, and put to bed in the room adjoining the cholera ward. She was, after being transferred, seized with the cholera on the 26th of October in the afternoon, and again brought back. She died in about 50 hours after seizure with this disease.

After this no new case of cholera appeared in the hospital, and it is to be observed that the foregoing cases occurred in the cholera room, strictly so called, and in the room next to it, and that Julia McCartney occupied both of these rooms at different times previous to, and during the visitation of the cholera.

(At this period each of the four wards of the lower hospital consisted of three rooms, each of which was capable of accommodating comfortably nine patients, and each room was separated from the others by plaster partitions, having doors of communication. As soon as was possible, after this advent of the cholera, Dr. Doane caused these partitions to be torn down, substituting pillars of Virginia pine for the support of the ceiling, by means of which each ward is converted into one spacious saloon, a beautiful transformation, productive of much comfort to the patients by the cheerfulness it presents, and the unobstructed ventilation it affords. Had not death prevented, Dr. Doane contemplated a similar alteration in the Hill Hospital, which would have been a still greater improvement.)

From the foregoing detail it appears evident that the propagation of the cholera was arrested by the sequestration of its subjects. As soon as Dr. Doane was notified that the cholera had invaded the lower hospital, though ill (for he had just risen from his bed to which he had been confined several weeks in consequence of a severe contusion), he came immediately down, and directed all unnecessary communication to

be cut off from the room in which it existed; and with the exception of Mary Condon, who was rapidly sinking under typhus, and Julia McCartney, who was dying with putrid diarrhea, all the patients not laboring under the cholera in this and the adjacent rooms, were forthwith removed to a distant part of the building; and the doctor further ordered that whenever and wherever the disease manifested itself the subjects of it should be transferred without delay to the cholera ward.

How different this from the course adopted during the previous visitation. In the year 1849 the cholera patients were disseminated here and there throughout the different hospitals at Quarantine for weeks, if not months, after the cholera had made its appearance. Those who had not the disease as well as those who had it often occupying the same room, and even lying in beds side by side. Hence we are not surprised at the great mortality attendant upon the cholera that year, which, according to the report of Dr. F. Campbell Stewart, was not less than one hundred and seventy-five.*

ART. IV.—*Case of Concussion of the Brain.* [Read before the Chenango County Medical Society, January 13th, 1852.] BY WILLIAM D. PURPLE, M. D.

ON the 23d of August, 1851, I was called to visit Seymour Marium, aged 30 years. I found him laboring under a very severe concussion of the brain, arising from an injury resulting from a fall from a horse. The horse was young and spry, but while on a free gallop, he hit one of his fore feet against the hind foot of another horse who was his competitor in the race, and fell. He threw his rider over his head on the beaten road. The fall was a severe one; indeed from the rapidity of the motion of the horse it could not have been otherwise. He fell upon the left side of the head which sustained the whole shock of the accident. There was a slight scratch near the outer canthus of the left eye, which caused a free ecchymosis

* See *Annual Report of the Physician of the Marine Hospital to the Legislature.* March 26th, 1850. Page 6.

of the eyelids upon that side. This was the only evidence of external injury that could be discovered.

The injury was received about 4 o'clock, P. M. I saw him about 6 o'clock. He was cold, and nearly pulseless; had been bled about a pint from the arm, by a layman, within ten minutes after the accident. He was speechless; his respiration labored, but not stertorous; his deglutition difficult; his senses were entirely locked up, and he was apparently unconscious of all external impressions. His muscular power was full and energetic; pupil of the eye dilated; pulse 58.

Warmth to the extremities, friction with warm flannel over the body, with teaspoonful doses of brandy in warm water, constituted the treatment for six hours; during which time he vomited frequently, and heat was restored to his limbs. His pulse had increased in volume, but not in frequency, with occasional intermissions. He was bled about a pint from the arm, and cold applications were applied to the head. These operations were resisted with great muscular vigor, and he unconsciously evinced much defensive power, both of mind and body.

Second day.—Symptoms about the same; pulse 54, rather feeble, much more so in the left arm than in the right; very restless and uneasy, with occasionally a sigh, denoting physical distress; perfectly unconscious and speechless.

Third day.—The symptoms remained the same during the day. Had passed urine freely, and taken a little broth; at evening he had a slight exacerbation of heat, with increased restlessness. This was accompanied by priapism, without the least evidence of delicacy; his pulse during the day was 56. He had so far recovered his speech that he could say yes, and no, but without evincing any mental action. Treatment, cordials and very moderate stimulants, with a darkened room, and no company to create mental excitement. Patiently waiting for the reaction of the second stage of transition.

Fourth day.—The patient had so far recovered his speech that he could utter three or four words, but with a single idea, and that often a confused one; appears to know his friends by sight and hearing, but cannot recall names. He is exceedingly irascible, and has periods of extreme restlessness. Gave

a free dose of olem Crotonis, which catharticised very freely in the evening. Other treatment the same.

Fifth day.—No evidence of reaction ; pulse 52 ; extremities cold ; clammy sweat over the whole surface of the body ; exacerbations of excitement less frequent, and of shorter duration. His priapism has subsided, is more mild and quiet, has less combative propensities ; says very little more than he did yesterday, has an acute taste for what he likes or dislikes, and governs himself accordingly ; receives and masticates a little food ; rises from the bed to urinate when it is suggested to him. Treatment the same, with one drop Croton oil every 4 hours.

Sixth day.—His physical and mental systems are about as they were yesterday. The oil has irritated his bowels, but produced but little evacuation. His skin is quite cool ; pulse the same as yesterday. High nervous excitement. This is evinced by his consciousness of the slightest tread. His sight is perfect, but it lasts but a moment. Cannot fix his attention but a single moment ; takes rather more food. Treatment the same, except the Croton oil ; applied cold lotion to the head.

Seventh day.—Appears about as yesterday ; not the least excitement of the system. Head and body cool ; pulse 50, and not quick ; mind a little aroused ; says he has pain in the back of the neck ; looks pale, and is becoming emaciated. Applied flannel next the skin over the whole body ; a blister on the back of the neck ; a generous diet, in which he is inclined to indulge.

Eighth day.—Little or no variation in his symptoms. His warmth is more general ; skin moist, inclined to perspiration. The pupil of the eye more regular in its contraction. His pulse is 52, and feeble. His mental powers somewhat improved.

Tenth day.—But little variation in the symptoms ; pulse 50 ; conversation mostly incoherent, occasionally correct remarks. Knows where he is, and wishes to go home ; little or no knowledge of the injury, or of what has transpired since.

Twelfth day.—The patient was taken home, a distance of four miles. His ride did not particularly affect him. I visited him on the twenty-first day after the injury. Found him much

improved—his mental faculties far above the last report. He answered all questions readily, and talked of matters of ten years since correctly. His senses were perfect—was restless and uneasy, and impatient of restraint—would travel about the farm in a very unreasonable manner. Had no recollection of the injury, or the circumstances which immediately preceded it. His appetite good, sleep regular, skin warm—his pulse but 50, and had not been above that number.

From that time until January 1st, he slowly improved in his mental manifestations, but he is not deemed by his friends as being "regular." He says he has no recollection of what passed after four o'clock on the day of the injury; when he looked at his watch, and with his companion was about to start for home—all subsequent was a blank, and he in vain attempted to recall it for a number of weeks, until another period equally definite, when it suddenly came to his mind. His physical system is in a healthy condition; his weight and strength is as formerly, but his mental powers do not allow him to pursue any regular employment. His pulse is but 52, and he says it has ever been as low, and I understand it is a family characteristic.

The interesting points, if not the anomalous characteristics in the above case, will be apparent to every member of this Society, and may be mentioned under the following heads:

1st.—The severity of the injury may be conceived by reflecting that the subject is a heavy man of about 180 pounds, that he was thrown from a running horse, and alighted on the beaten track of the road, on his head, and this without a perceptible fracture of the skull.

2d.—The entire absence of the least evidence of *reaction* in this case, is, in my experience, an anomaly in injuries of the head, and all the authorities I have been able to consult concur with that expression. The pages of the Bells, Coopers, Abernethy, Potts, Liston, and others, all teach us that the first stage of concussion can be of but short duration, and their warning voices to the surgeon are raised to caution him to be alive to the momentary expectation of *reaction*, and the great danger of delay in resorting to antiphlogistic treatment, to arrest the danger of excitement on the debilitated tissue of the brain.

3d.—The practical deductions of all authority in dividing the symptoms of concussion into the *first* and *second* stages, were here entirely nugatory, as there was not the slightest evidence of the advent of the second stage, as the pulse was never above a healthy standard, neither in frequency nor in volume; and such is the evidence of all concurrent authority on this subject, that I should hardly be willing to trust my individual veracity, or my perceptive powers, in marking symptoms, had I not the testimony of many of the medical gentlemen of this county to the facts here stated, and also that I watched him closely, at least twice in each day for the first six days after the injury.

4th.—It will be seen that but little active means were resorted to in the treatment, and with the exception of the bleeding some eight hours after the accident, it was such as was indicated in the *first* stage of action; and as the second never appeared, the treatment applicable to it was not resorted to; yet the recuperative energies of the brain were able to restore its vital power, and he was restored to comparative health.

ART. V.—*Fracture of the Pelvis.—Compound Fracture of the Olecranon.—Rupture of the Bladder?* By JOHN O. STONE, M. D., Surgeon to Bellevue Hospital. Reported by A. P. DALRYMPLE, M. D., Assistant Surgeon.

JAMES HENNETTY, aet. 30, native of Ireland, admitted Oct. 7th, 1851. His occupation was that of a ship carpenter.

On Saturday, Oct. 4th, while engaged at his work on a scaffold about a ship, he fell to the ground, a distance of fifteen feet, injuring the left elbow and left hip, which came in contact with a block of timber. He was unable to arise after the injury, and was carried into a neighboring house, where he remained without surgical attendance until his removal into the hospital. During the three days which intervened between the reception of the injuries and his removal to the hospital, he did not suffer any great amount of pain, or think his injuries to be severe. He had a very good appetite, regular evacuations from his bowels, and passed his urine as naturally as

ever. On admission there was considerable constitutional disturbance—a hot and dry skin—coated tongue, and pulse full and about 100.

There was found to exist a compound fracture of the left olecranon. The wound through the integument was quite small, hardly admitting the end of a probe. Synovial fluid oozed through this opening. The injury to the hip or thigh was not easily recognized. At first fracture of the neck of the thigh bone was suspected. There was a fulness about the top of the thigh, and a slight shortening of the limb, but the foot was a little inverted. The glutei muscles were bruised, as indicated by the discolored shin. On raising the thigh and rotating, it was found, however, that the trochanter described a large arc of a circle. He complained of a loss of power in this limb, and yet could, by his own efforts, flex the knee and raise the thigh from the bed. In doing so it was observed that the large muscles on the back of the limb did not contract as usual, and as they did on the right thigh, but hung down, flabby and pendulous like a bag. The paralysis of these muscles was attributed to the contusion they had received.

A fracture of the neck of the bone could not be diagnosed. Dr. Stone then invited Drs. Parker and Van Buren to see the case with him. While one stood upon the bed and seized the patient's limb, the knee being flexed, and made traction, a crepitus could be felt and also heard by the bystanders. When after traction, the limb was pushed upwards towards the acetabulum, a loud and prolonged shock was produced, like to that which accompanies the return of a dislocated bone to its socket. This was particularly perceptible when the hand was applied to the trochanter, or to the tuberosity of the ischium, far back towards the socket.

It was therefore concluded that the pelvis was broken, and probably the acetabulum driven in. This opinion was confirmed, when, upon the introduction of two fingers in the rectum, traction and relaxation of the thigh being continued as before, the ramus and tuberosity of the ischium were found to accompany the thigh and to be attended with crepitus.

On his admission, the bladder was found distended with urine, and there was inability to evacuate it. Before his ad-

mission, he could pass his urine without difficulty, according to his own statement.

Treatment.—The urine was drawn off by the catheter, the arm furnished with a long splint, in hopes of obtaining union of the integuments at the elbow; and Desault's long splint was applied to the injured lower extremity. A dose of ol. ricini was administered.

Oct. 9th.—The oil operated. The elbow joint was found to be distended with pus and synovial fluid. The dressings were consequently removed, and the fore-arm flexed and supported in a sling. The urine was also drawn off by the catheter. Gruel diet allowed.

Oct. 15th.—Pulse 100. The retention continues, and the urine is drawn off two or three times every 24 hours. There is a large quantity of mucous sediment in the urine. Patient has not a very good appetite. Is allowed extra diet, viz., beefsteak, eggs, and brandy.

Oct. 16th.—Pulse 90. Passed some urine without the catheter, but this seems owing rather to the distention of the bladder than to its muscular contraction.

Oct. 19th.—There is much sediment of mucus, with phosphates to be seen in the urine when drawn off.

Oct. 20th.—Can pass his urine very slowly on straining, but it causes so much burning pain along the whole course of the urethra, that he prefers to have it drawn by catheter.

Oct. 21st.—Pulse 100. Skin hot and dry. Has a glairy and bloody expectoration, symptoms of pneumonia. Has emaciated considerably.

Oct. 23d.—No more expectoration indicative of pneumonia. Urine ammoniacal—*stains the catheter of a dark color.* The sediment is thick and ropy.

Oct. 28th.—Urine highly ammoniacal; full of thick ropy mucus. The bladder does not contract after the catheter is used, all of the urine is not therefore drawn off. Pulse small and frequent. Is to take through the day infus. pareir. brav. et lini. lem. Takes a half-pint of brandy every 24 hours.

Oct. 30th.—Suffering greatly from the sharp burning pain in the bladder. The urine is so thickly charged with ropy sediment, that the eyes of the catheter have been enlarged in

order to facilitate its passage ; yet this is only partially effectual, as some urine is left after each attempt is made.

The discoloration of catheter, first noticed the 23d, has continued all the time. Patient much emaciated. While sleeping sweats profusely. Has very little appetite.

Nov. 1st.—Pulse 120. Cannot draw off any urine. Bladder much distended. Warm water injected, but brought away only the slightest quantity.

2 P. M.—Catheter again used. Warm water injected, and pressure being made over the bladder, after much perseverance, about one quart of muco-purulent urine was drawn by catheter.

Nov. 2d.—Had less pain last night ; slept better. About a pint of muco-purulent urine drawn off.

Nov. 4th.—Pulse 108, and very small. Catheter still discolored ; a great deal of pus in the urine. Is much emaciated. Very little appetite.

Nov. 6th.—Died at 4 p. m.

Autopsy eighteen hours after death.—On making an incision through the walls of the abdomen, the knife passed immediately through the walls of the bladder, which were perfectly adherent to the abdominal walls. The internal surface of the bladder was black and sloughy. The discoloration passed through the walls of the bladder, and pervaded one-half of the thickness of the recti muscles. The bladder was half full of urine and pus. There were three openings through the bladder communicating with the abdomen. Two to the left of the spinal column ; one of which was posterior, and nearly an inch in diameter, the other was at the left of this and smaller. These did not communicate with any abscess. The opening on the right side of the spinal column was about an inch in length, and half an inch wide, communicating with an abscess half full of urine and pus, extending up and behind the peritoneum on the right side of the spinal column as far as the diaphragm. The odor from this collection of matter was highly offensive, like to sulphureted hydrogen.

Both ossa innominata were found loosened at their sacro-iliac articulations. The left acetabulum was fractured in such a manner, that the three bones which constitute it were sepa

rated at their original points of union. The posterior and superior border of the acetabulum was broken off and removed to a short distance, where it was retained by new ligamentous attachments; but its displacement had left such an opening, that the head of the femur must have been easily dislocated on the dorsum of the ilium; and this fully accounted for the prolonged shock perceived whilst the limb was being examined.

Remarks.—This case is interesting from the number of important injuries combined, and it is highly so, in regard to rupture of the bladder; in reference to which, the question may be asked, were these openings in the bladder produced at the time of the accident, or did they follow as a consequence? Taking into consideration the high state of inflammation of the bladder, and the active constitutional disturbance, following so soon after the injury; that rupture of the bladder generally accompanies fracture of the pelvis, and especially where there is displacement of the innominata, in addition, there can be scarcely a doubt that rupture of the bladder was a part of the injuries sustained at the time of the accident. Another important item connected with this case, is, the length of time the patient lived after the injury—a space of 32 days. In the very accurate statistics of rupture of the bladder (a collection of 78 cases), by Dr. Stephen Smith, formerly of this hospital, and published in the 6th vol. N. S. of this Journal, there is only one case that lived longer after the accident. That patient lived 42 days—the next longest time is 23 days. In those two cases, the post-mortem appearances were very similar to those described in the case here recorded.

ART. VI.—*Syncope from entrance of air into the Facial Vein.* By
MOSES GUNN, M. D., Professor of Anatomy and Surgery in the
University of Michigan.

THE substance of the following case was transmitted immediately after its occurrence, to the Chairman of the Committee on Surgery of the National Association; but no notice having been taken of it by that committee, and deeming it not entirely

devoid either of interest or novelty, I now seek to lay it before the profession through another channel.

The patient appeared at the college clinic with a small, hard, oblong tumor, lying under the base of the inferior maxilla, involving the facial vessels so as to require their division in its extirpation. Previous to commencing the operation, in accordance with my usual custom before making incisions in this region, I sought, by compression with my hand upon the lower portion of the neck, to ascertain the course of the external jugular vein, but was not able to detect the vessel. An incision was made parallel to the base of the jaw, and the tumor separated from its bed, except at a point near its posterior extremity where it involved the facial vessels. These were divided, the tumor detached, and its place occupied by a sponge, removing which, in order to secure the facial artery, I instantly noticed a movement in the open mouth of the facial vein, heard a bubbling sound, and my patient sank back in a state of syncope, from which he recovered with some difficulty by the ordinary means. The wound was immediately stopped on noticing the movement in the open mouth of the vein, and by means of a firm compress, hemorrhage and further entrance of air was sought to be prevented, and the wound allowed to heal by granulation.

This case is interesting from the fact that the accident arose from the entrance of air into a vein as small as the facial, and had it not been reinforced by some other, it would seem impossible for its division to be attended with such results. But it will be borne in mind, that the external jugular did not pass down the neck in its usual superficial course, but probably united with the facial, and emptied by a short thick trunk common to both into the internal jugular. The facial I undoubtedly divided at the point of junction. I have once met with just such a distribution of the veins upon the dead body.

ART. VII.—*Remarks on the Treatment of Typhoid Fever.* BY H. N. BENNETT, M. D., Bethel, Ct.

THE treatment of typhoid fever has long been with me a problem of difficult solution, although one of the most fre-

quent diseases with which every New England practitioner has to contend. An early partisan of the opinion that the *typhus fever* of the Northeastern States, was identical with the disease described under so many different names by the French writers, I naturally inclined, in the complete absence of any thing like a specific treatment, and having in my mind the anatomical lesions which so constantly occur in the abdomen, to avoid every thing like perturbation either in the first or succeeding stages of this grave malady. Expectation has been for a series of years, *my* method, and though it may be an acknowledgment of ignorance, yet it has succeeded in the large proportion of cases, and I believe is far preferable to any plan which adopts as the basis of its operations, the excitation of any of the internal organs.

During the past eight months, this form of fever has prevailed to a considerable extent in this and the adjoining towns, and I have had in this time an opportunity of treating thirty well marked cases, beginning with the initiatory symptoms. These thirty cases have been treated upon an unique plan, and with such uniform success, not a single case having proved fatal, that I have determined to lay it before the medical public through the Journal, in order that others may be induced to give it a trial, and determine whether this success has depended upon the efficacy of the treatment, or upon the rare coincidence of such a succession of fortunate cases. This method consists simply in the continued repetition of minute doses of morphine in solution, at intervals of one, two, three, or four hours, according to the circumstances of the case. I dissolve one grain of the sulphate of morphine in 4 or 6 ounces of water, according to the age of the subject and the intensity of the symptoms, and commence by giving the patient a teaspoonful of this solution every two hours. In the first stage of the disease, when there is much pain in the head and limbs, jactitation, wakefulness, &c., the repetition of this dose for 24 or 48 hours, has almost uniformly succeeded in controlling these symptoms, and they have given way to a degree of quiet highly refreshing to the patient. The steady exhibition of the medicine in this manner, soon produces a tendency to protracted sleep, and it may be neces-

sary to abate the frequency of the dose, giving it every third or fourth hour only. After some days continuation of this treatment, it has been common to see the heat and dryness of the skin give way to a general perspiration more or less profuse, and affording much relief to the patient. This has occurred a number of times during the course of the disease, in some cases the first alleviation of the symptoms being followed by an exacerbation, which again yielded to the same favorable conditions. In other instances, the disease has seemed to yield its severity almost to the first decided impression made by the exhibition of the medicine. The following case (condensed from my notes) was most striking in this respect.

Nov. 25th. (1851).—Joseph Bradley, a farmer, of intemperate habits, has complained for ten days past of intense headache, pain in the back and limbs, loss of appetite, muscular debility, &c. He has taken some cathartic medicine, which operated freely, but produced no diarrhœa. At my first visit to day, I find him still complaining of severe occipital headache—has had slight epistaxis this morning—prostration; tongue smooth, red and dry through the middle; abdomen slightly tympanitic; pulse 90; eyes suffused; skin hot and dry; no appetite nor thirst. Prescription, one grain of morphine in 4 oz. water, a teaspoonful to be taken every two hours; sinapisms to the neck and feet; Indian gruel; mucilaginous drinks.

26th.—Epistaxis; intense pain in the head; pulse 90; tongue continues dry; no fœcal evacuations; intellect wandering through night; continue the sol. morph., and add Dov. powder 5 grs., calomel 2 grs. at bedtime.

28th.—Five or six alvine evacuations since last visit; tongue dry, brown and chapped; great restlessness; pulse same; no other alteration in the symptoms. Continue the sol. morph. every hour, with mucilages.

30th.—I find my patient apparently improved; has been in a constant and general perspiration since last evening; slept well through the night; headache less intense; tongue more moist; no alvine evacuations; pulse 86; abdomen slightly tympanitic.

This was the 16th day of his disease, and from this period the intensity of the symptoms was completely subdued, and although convalescence could not be said to be fairly established, yet a gradual amendment was perceptible from this time, and no marked exacerbation of the symptoms re-occurred.

Diarrhea has been a predominant symptom in a large majority of the thirty cases which I have mentioned, and although the treatment has by no means suppressed it, yet it has evidently exerted a controlling influence, rendering the discharges less frequent and perhaps less copious. In the case of a young lad 8 years of age, whose disease was protracted to five weeks, and who had a continual tendency to diarrhea during the whole period, this symptom was evidently controlled with great advantage to the patient by the steady exhibition of the morphine in the manner I have indicated. Its occasional suspension for a few hours, for the purpose of obtaining a subsidence of the narcotism produced by its continued administration, was uniformly followed by an increase of the quantity and frequency of the alvine evacuations, as well as of the tympanism of the abdomen, and of the frequency of the pulse.

The duration of the thirty cases treated in this manner, has varied from 16 to 45 days, and the degree of the gravity of the symptoms has been very different in individual cases, although in the aggregate there has been considerable uniformity. In those cases which were protracted to four, five, and six weeks, and in which delirium was a common symptom, I continued the treatment up to the period of commencing convalescence, and did not in a single instance observe any untoward symptoms which could be attributed to the protracted administration of the medicine. In no case have I seen any signs of that peculiar nausea which often follows upon the exhibition of opium in the ordinary manner, and I have attributed this exemption from so unpleasant a consequence, not only to the minuteness of the dose, but also to the degree of dilution to which I submit the morphine.

The only adjuvants to this treatment, which I have employed, have been the occasional exhibition of a few grains of

Dover's powder and calomel at night, in the earlier stages of the disease, before the morphine had produced a decided effect, together with now and then a laxative dose, as circumstances required at any stage of the disease.

Whether future trials of this simple method of treating typhoid fever, will justify me in adopting it exclusively, is yet to be determined ; but its apparent success thus far, I think, fully warrants me in giving it a further trial.

ART. VIII.—*Adulterated Medicines in the Country*. By A. WILLARD, M. D., of Greene, New-York.

THE following remarks are the substance of a report made to the Chenango County Medical Society, in pursuance of a resolution adopted by the Society for the purpose of carrying out the request of the United States Medical Association, as expressed in a resolution offered by Dr. Huston, Chairman of the Committee on Spurious and Adulterated Drugs, and adopted by the Association at its meeting in May, 1850.

The Government of the United States has wisely appointed an officer, whose business it is to inspect all imported drugs and chemicals, and to permit none to be entered at the different custom-houses excepting such as are pure and unadulterated. This duty is undoubtedly performed with all the care and attention which the framers of the law contemplated ; at least we are at liberty to suppose that such is the case ; so that the importer and wholesale dealer are, in a great measure, protected from frauds in their purchases of *foreign* articles. But it does not necessarily follow that the retailer and the consumer are equally safe from imposition ; nor is there any law to prevent abuses in the home manufacture of chemicals, or in the preparation of those compounds by the apothecary which are in constant and daily use by the physician.

Every medical practitioner in the country knows full well how often he is disappointed in the effects which he expects to obtain from the exhibition of certain remedies—remedies which, he has the best authority for believing, are to produce certain positive and unequivocal results—results for which he waits●

anxiously, but too often waits in vain. His trials of an article which he purchases as perfectly pure, not unfrequently lead him into the firm belief of its inutility, or still worse, of its absolute injuriousness to his patient, while the article in its purity, if it could be thus procured, would be found to possess all the valuable properties ascribed to it.

We do not wish to make wholesale charges, but we cannot doubt the fact, that there is no traffic which opens so wide a door for fraud, imposition, and iniquity, as the trade in drugs, and the manufacture of chemicals and pharmaceutical compounds. And it is not alone in the more costly preparations of this sort that fraud and imposition exist, but even the cheapest are not only adulterated, but sometimes an article of the kind is found which contains not one particle of the substance it purports to be. For instance, we have now in our possession a specimen purchased for precipitated carbonate of iron, which was nicely bottled and labelled with what purported to be the manufacturer's name, which consists entirely of Spanish brown. Another article was purchased for litharge, which it is believed contained no particle of lead, but seemed to consist entirely of some yellow earthy substance, such as yellow ochre, or some other cheap material of the kind. Most practitioners in the country are in the habit of preparing their own tinct. muriatis ferri. That which is purchased from the apothecary is so variable in its strength that it is not to be depended on; and, indeed, that which they prepare for themselves is little better, in consequence of the very great impurity of the precipitated carbonate which is generally used in its manufacture. We have seldom been able to dissolve more than one-half or two-thirds of the iron, and of course the preparation varies in strength in proportion to the amount of iron it contains.

If, however, a pure carbonate be formed, the acid will dissolve every particle of it, and the resulting tincture will be found to possess all the valuable properties which are expected to be found in it.

Sweet spirits of nitre is an article which it is extremely difficult to find in the country of equal and uniform strength. It is manufactured either by the chemist or the drug-seller (we do not exactly know which), of all sorts of strength to suit

purchasers, and hence it comes to us labelled with a multitude of F's, from a round half dozen or so, which are supposed to indicate the different degrees of strength, down to that which is not considered worthy of being dignified with any F at all. This last is the preparation which is most usually brought into the country, and it not unfrequently requires an individual of a most exquisite nicety of taste and smell to distinguish it from ordinary whiskey. Precisely the same remarks will apply to aqua ammonia. Perhaps there are scarcely two samples of this article which contain the same amount of ammoniacal gas, so that in ordering it for internal exhibition, the prescriber never knows the exact amount of the alkali he directs.

It would evidently be an improvement if both this and spirits of nitre could be prepared of uniform strength for internal use. Aqua ammonia is frequently required of greater strength for external application, so that there would seem to be a necessity for two preparations. But no such reason exists for the multitude of F's that are attached to the various samples of spirits of nitre; indeed we believe that no reason can be given for this, aside from the cupidity of the manufacturer.

Occasionally castor oil is found adulterated with some cheaper oil—perhaps lard oil. If thus adulterated the taste is not materially altered, perhaps it may be somewhat improved, but the activity of the remedy is very much diminished, so that it becomes almost impossible to apportion the dose in such a manner as to be at all certain of its effects. In an article so much used as a household remedy as this, this iniquitous adulteration is much to be regretted.

We have recently been shown a specimen of olive oil adulterated probably with lard oil. Its appearance was very fine, nicely bottled and labelled, and every way calculated to deceive the eye; but its impurity was readily detected by the taste which indicated pretty conclusively that the foreign oil was procured from half putrid materials.

The compounded spirits of sulphuric æther (Hoffman's Anodyne) is seldom found in the country. The spirit of sulphuric æther is sold for it, which contains not one particle of ætherial oil, the ingredient to which the former remedy owes its peculiar virtues.

The compounded spirits of lavender is a preparation which perhaps never comes to us in the shape in which it is directed to be made by the Dispensatories. The various writers on pharmacy tell us it is a delightful compound—an elegant preparation—a grateful cordial, but we, at least, have never been able to procure it in so delightful, elegant and grateful a form. On the contrary that which we have usually procured exhales any thing but the delightful and pleasant aroma of fresh lavender and rosemary. We are led to believe that it is now generally, if not always, made by dissolving the essential oils of lavender, rosemary and cloves in alcohol in very variable quantities, to suit the notions of the compounder, and coloring the mixture with red sanders. If fresh oils were used, this might be a very tolerable substitute for the officinal preparation, always providing the oils were pure. The oil of lavender ordinarily used by the apothecary is probably procured from the broad-leaved variety of the plant, instead of the narrow-leaved, which is more costly as well as more fragrant. The former variety smells pretty strongly of turpentine, and both are, not unfrequently, pretty largely adulterated with it, so that in the compound we are considering we get a most villainous essence of turpentine instead of lavender.

We frequently get Croton oil in the country which will not even produce redness of the skin. It is needless to say that some cheap oil is mixed with it.

It is perhaps useless for us to speak of the very extensive adulterations of those medicines which come to us in the form of powders. Their inefficiency is well known. Among these ipecac, rhubarb, and jalap are frequently so diluted by the addition of inert substances, that it is difficult to designate a proper dose, and many times, an amount is required that is extremely inconvenient to the patient, and not a little annoying to the prescriber.

We presume, that in the cities, with the aid of government examiners of drugs, colleges of pharmacy, pharmaceutical societies, and sundry other appliances, suited to keep the trade within the bounds of propriety, the sale of adulterated drugs is very much lessened; at least, we so understand from various sources; but we must be allowed to doubt whether the law

with all its terrors, aided by all the appliances aforesaid, has made men any more honest than they were before it went into effect, unless it be upon compulsion. That there are more bad drugs in the country than heretofore is perhaps not the fact, but that the quantity is materially lessened, is very much doubted. The reason, or at least one reason, for this is, that in the country but very few in proportion to the whole number that sell drugs, know any thing at all about the trade; many not being able, indeed, to distinguish one drug from another except by the label on the package. We have known Peruvian bark sold for rhubarb, uva ursi for buchu, and Virginia snake root for pink root. The object of the country trader is very much the same as that of the merchant princes, that is, to make money, and whatever purchases they make are made with a single eye to the expected profits, and whatever will afford a profit is considered a legitimate article for traffic. Hence a country store is a sort of "*omnium gatherum*," the contents of which would put entirely in the shade the multifarious catalogue of the famous Mr. Caleb Quotem.

As traders most usually purchase drugs for the sake of the profits their sales will yield, the quality is the last matter inquired about,—the cost is the principal thing, and whether they will yield a fair per centage, is the question, and there are plenty of very accommodating gentlemen to be found in the cities, who are not only willing but anxious to sell drugs at almost any price the purchaser may require.

Hence it will be seen that the country is flooded with impure and adulterated articles, in consequence of ignorance of the quality on the one hand, and insatiable cupidity and recklessness of human life on the other.

ART. IX.—*Upon the Diseases of the Isthmus of Panama.* By JOHN A. LIDELL, M. D., of New-York.

IN an article published in the last number of this Journal, some general views were presented concerning the climate and the diseases, especially of Europeans and Americans, at Navy Bay, Chagres, and in the valley of the Chagres river. The morbid influences of malaria or marsh miasmata, of the high range of atmospheric temperature,

moisture, etc., were stated at some length, and in a general manner. In the present paper we propose to continue the same subject, by giving a special description of some of the diseased states of the human body, generated by these morbid agents; using for this purpose, observations made at the above-mentioned places, during the dry and the commencement of the rainy season of 1851.

I.—OF THE CLIMATE FEVER.

This is the most common disorder of that country. Of 382 patients treated in the hospital at Buyo Soldado on the Rio Chagres, 250 or nearly two-thirds had the climate fever. Most strangers are attacked by it in the course of a few weeks after their arrival. At Chagres and Panama, it has acquired, among foreigners, the surnames of those places respectively. This disease is paroxysmal in character, and identical in many of its features with the remittent fever, so common during the summer and autumnal months in most parts of the United States.

Its symptoms vary much, according to the pre-existing pathological states of the organism, the severity of the seizure, and for reasons that are not understood. The symptoms which usually mark its accession are languor, lassitude, weariness, yawning and stretching, aching pain in the bones, and chilliness, followed by heat and dryness of the skin, acceleration of the pulse, general diminution of the secretions, flushed countenance and headache. In some cases, the paroxysm is ushered in with a well marked rigor, but in other cases, even chilliness is wanting, and in still another class of patients, the chilliness alternates with flushings of heat. Pain in the head is sometimes present in the forming stage, and commonly, but not always, accompanies the hot stage. The patients generally complain of, and exhibit by their actions, much debility, both during the continuance of the disease, and for a variable length of time after it has passed away. At the expiration of from twelve to sixteen or eighteen hours, according to the severity of the attack, the intensity of the febrile symptoms begins to be lessened, the skin becomes cooler, the pulse less frequent, and the patient says he feels more comfortable; in short a decided remission occurs. At the end of about twenty-four hours from the commencement of the paroxysm, the intensity of the febrile symptoms is again increased, an exacerbation takes place, except such a result has been prevented by timely medication; and in general, without such timely interference, the severity

of each succeeding exacerbation will constantly be increased, a result which I witnessed several times in persons who could not obtain medical assistance till after the lapse of several days, or would not apply for medical assistance, till the severity of their sufferings compelled them to do so. We must next mention a class of patients, in whom the attack commences without a chill, or even chilliness, and terminates at the end of twelve or fourteen hours, in a well-marked intermission, profuse perspiration being present. These cases seem to be a sort of intermittent fever, without the cold stage, and are not unfrequent in occurrence. We also sometimes see, during the height of an exacerbation, transient and partial perspirations alternating with hot flushings of the skin. We now proceed to notice a very important class of patients, in whom no well-marked remission can be detected till after the lapse of three or four days. But this result must be considered as having been occasioned by a complication or lesion of some tissue or organ, (which may be either accidental or otherwise,) accompanying the malarious fever, and essentially modifying its symptoms, progress, and treatment. Thus, irritation of the stomach and intestines, congestions and inflammations of these and other organs, are known to produce such a result, and the fevers accompanying them, whether sympathetic or idiopathic, are apt to be more or less persistent in character.

From this point of view, the complications of malarious fever are seen in their true light; and their diagnosis and treatment, seem to fitly illustrate the superiority of the sound pathologist over the empirical practitioner.

In this connection it may be well to notice the most important complications with the climate fever, and the symptoms peculiar to each of them. The *bilious* is deserving of mention before all others, both on account of its severity and the frequency of its occurrence. When this complication is present, the patient has in addition to symptoms already narrated, nausea and more or less copious vomiting of bilious matter, bitter in taste, and greenish yellow in color. The bilious vomiting may commence at the outset of the attack, or occur at any moment afterwards. His tongue is usually covered more or less thickly with a yellowish coat, and its papillæ may be large and distinct. He may also have more or less tenderness on firm pressure at the epigastrium, and right hypocondrium. In some cases, even at an early period, the conjunctivæ and the whole surface of the body exhibit a jaundiced hue, and bile can be detected in the urine. By these symptoms we recognize bilious remittent fever. Another

complication of frequent occurrence is the *gastric*, the symptoms of which in a well marked case, are nausea and distress in the stomach, tenderness at the epigastrium under pressure, vomiting, intolerable thirst, and if drinks be swallowed copiously, they are directly vomited up again. There is retching, and if the stomach is nearly empty, a little bile may be thrown off. The tongue is usually more or less coated with a whitish fur, and it may be reddish about the tip and edges.

Again, another rather frequent complication which deserves a notice at our hands, is the *enteric*. When this is present, the patient has more or less distress in the belly, he sometimes complains of a constant burning pain in the abdomen, he has diarrhea of greater or less urgency; the discharges are thin, consisting of mucus, or muco-bilious matter mixed with feces, in varying proportions. The stools are often acrid and exhibit a bright yellow color. There is also more or less tenderness of the belly under pressure, which is often most marked in the track of the small intestines.

These superadded to the usual symptoms of malarious fever, are, according to my observations, the signs by which each of the three complications may, for the most part, be recognized.

We have also to mention that two of these complications are often co-existent in the same case. For example, the *hepatic* or *bilious* is almost always accompanied by the *gastric*; the *enteric* is sometimes associated with the *gastric*, and occasionally all three of them are present in the same subject.

The climate fever is usually associated with one or more of these complications. The rationale of this was sufficiently explained in a former article, and it does not seem to be necessary to repeat it here. But such is not invariably the case; for I both suffered in my own person, and saw others have the fever, unattended by marked disturbance of the hepatic function, unattended by marked irritability of the stomach and intestines. However, we must not be understood to say that, in such cases, the bile is perfectly normal in quantity and quality, or that the function of digestion is performed as well as in health, but that the disturbance of the liver, stomach, and intestines, is not so great as to deserve the name of a complication; for, in such cases, those organs are only exhibiting the effects of malarious poisoning, in common with every other part of the body.

Upon the pathological anatomy of the climate fever, and its so termed complications, we have not much to say. Observations upon such a subject, unless they are carefully drawn from numerous and skilful dissections, are more or less hypothetical in their nature, and

are more or less calculated to mislead. However, a strict interpretation of the vital phenomena, according to what is now known concerning the pathological anatomy of the mucous membrane of the alimentary canal, renders it probable that the *gastric* and *enteric* complications, in most cases, consist essentially of a hyperæmia (congestion) or a catarrhal inflammation of the gastric and enteric mucous membrane, of varying intensity. This may, at first, amount only to catarrhal irritation (simple catarrh), and pass afterwards into the higher grades of inflammatory action. It may result from mechanical or chemical irritation of the gastro-enteric mucous membrane, affected by the acidity, excessive quantity, or indurated consistence of the intestinal contents; or it may be developed in consequence of congestion or venous stasis in the portal system. It either attacks the mucous membrane uniformly, or is developed mainly in the villi and follicles. It may run an acute course, or degenerate into a chronic stage. Besides these there is probably another abnormal condition of the gastro-intestinal mucous membrane, which is sometimes co-existent with malarious fever. We refer to the so-called non-inflammatory softenings. They would be found only in subjects suffering from a general cachexia and atrophy, or who had experienced frequently repeated attacks of the fever.

Under the general term bilious complication of the climate fever, several abnormal states of the liver are probably embraced, which resemble each other only in the disturbance of the biliary function they occasion, but are widely different in their essential character. Among these we may mention, first, hyperæmia or congestive turgor, including both passive hyperæmia, dependent upon torpor in the portal vascular system, and active hyperæmia, resulting from idiopathic or consensual irritation; second, sub-acute inflammation of the hepatic parenchyma; third, catarrhal irritation or inflammation of the mucous membrane of the biliary passages; and fourth, pre-existing abnormal states of the liver, such as the fatty degeneration, and the nutmeg liver, particularly that variety of it which consists of hypertrophy of the white or so-called secreting substance, with enlargement of the capillaries of the biliary cunaliculi, resulting from excessive secretion of bile and stasis of the secretion, and accompanied by hyperæmia of the portal bloodvessels. The inflammation of the biliary mucous membrane, closely resembles that of the gastro-enteric mucous membrane, and is often co-existent with it.

Treatment.—The indications to be followed in the treatment of climate fever are threefold; first, to moderate the febrile excitement,

and produce a remission as soon as possible ; second, to prevent complications when they do not exist, and to remove them when they are present ; and third, to prevent the recurrence of the paroxysms.

The first indication is best accomplished by quiet ; the patient should remain in bed, which almost always he is glad to do on account of feeling much debilitated, by the administration, in suitable quantities, of the refrigerant drinks, such as cold water, lemonade, tamarind water, cream of tartar water, and liquor potassæ citratis—by cool or tepid spongings of the surface of the body, and by the administration of a gentle laxative. The last class of remedies always answer a useful purpose. The contents of the intestinal canal, under the circumstances supposed, are generally more or less acrid in quality, and by their removal an abiding source of irritation is destroyed, and in some cases, a complication is prevented. The laxatives which are mildest and at the same time effectual, are the best. We used castor oil, Seidlitz powders, magnesia, sulphur, potassa, bitart., magnesia calcinat., pulv. rhei et magnes., but generally gave the preference to castor oil. When the secretions were very scanty we usually administered five, ten, or even fifteen grains of blue mass, and directed it to be followed in a few hours with a dose of castor oil or a saline aperient. In case a mercurial was administered, acidulated drinks were prohibited. A weak infusion of camomile, taken cold, constituted a grateful drink for many patients. The neutral mixture, liquor potass. citrat., by slaking thirst, promoting diuresis and diaphoresis, seemed to be a useful remedy. At the same time all food was interdicted, or only barley water, rice water, thin arrow-root, and thin gruel were allowed. In this simple manner the treatment of an uncomplicated case of climate fever was conducted till a remission occurred, which was denoted, as already mentioned, by a partial subsidence of the febrile symptoms. The time had then arrived for the employment of another class of remedial agents, for the purpose of preventing exacerbation and arresting the febrile movement, the anti-periodics. Of these the best is the *sulphate of quinine*. I made many observations for the purpose of determining the average quantity of this medicine required to arrest the paroxysms of malarious fever on the Isthmus, and found it to be fifteen grains. The usual method of administering it was as follows : five grains in substance, mixed with a little syrup or mucilage, immediately on the occurrence of the remission ; five grains about the middle of the same period ; and another five grains about one hour before the expected recurrence of the exacerbation. When the patient could not take quinine

in substance, we commonly gave a pill containing two grains of the remedy every hour, commencing with the remission, and continuing till the time for the exacerbation had passed by and the febrile symptoms had given place to profuse perspiration. In this way we almost always arrested the simple climate fever without difficulty, especially when proper preparatory treatment had been employed.

Arsenic, as an antiperiodic, received but a limited trial at our hands. I administered to myself Fowler's solution for a short time, but was forced to suspend it, on account of irritation in the gastro-enteric mucous membrane. And speaking in general terms, the irritable state of the abdominal mucous membrane in patients on the Isthmus, restricts its use to very narrow limits. Besides the effects of arsenic as an antiperiodic are not speedy enough to adapt it to the treatment of remittent fever.

We have thus briefly sketched the treatment of simple or uncomplicated climate fever. Except two or three points, *opium* is a remedy which seems to possess the power of abbreviating the hot stage, but the propriety of administering it for that purpose is more than doubtful in many cases, because it diminishes too much the secretions of the internal organs. Patients often have, during the height of the exacerbation, an intolerable headache. This is most easily relieved by the local use of cold water or evaporating lotions. During convalescence, patients are often troubled with profuse perspiration. This is for the most part easily remedied, by administering about one drachm of the acidulated solution of quinine three times a-day.

We must next describe the treatment of the complications, the symptoms of which have already been given. For the gastric we used the following:—If there was much tenderness at the epigastrium under pressure, two or three ounces of blood were taken with cups; if the tenderness was slight, a sinapism was applied, and both were usually followed with either hot fomentations or a warm poultice, applied over the affected part, and kept there till the tenderness had nearly disappeared. To control the vomiting and retching, we used effervescing draughts, liquor calcis, with mucilage, the recumbent posture prohibiting all drinks as long as necessary. Pounded ice would have been a useful remedy, but we had none. Hydrocyanic acid was also sometimes employed. After the vomiting ceased, we administered the neutral mixture with mucilage, applying, at the same time, the treatment proper for malarious fever, but avoiding as much as possible the internal administration of irritants.

The bilious complication was treated as follows:—If there was well-marked tenderness in the right hypocondrium, cupping was employed to the extent of four or six ounces, and a large warm poultice was applied over the same region and kept there for some time. The bilious vomiting was at first encouraged by drinking freely of warm water, after which it sometimes declined spontaneously, or, in most cases, was readily controlled by remedies already mentioned. As soon as it could be retained on the stomach, a saline cathartic (the salts of potassa were best) was administered for the purpose of producing diuresis and large watery evacuations from the bowels, whereby we hoped to diminish the volume of the portal circulation without too great a sacrifice of the patient's strength. If the hepatic tenderness remained after cupping and faithful poulticing, a large blister was applied directly over the affected part. In some cases, where vomiting was a persistent symptom, we have seen large doses of calomel (from 20 to 30 grains) administered with apparent advantage. To quiet the patient at night, and give him needful repose, his body and limbs were sponged with tepid water, and he took a suitable dose of morphia.

For the enteric complication we gave the following treatment:—If there was much abdominal tenderness, a few ounces of blood were abstracted locally with cups, after which the belly was poulticed. If the tenderness was slight, instead of cups a sinapism was applied, and followed also by a warm poultice. To effect the expulsion of the acrid contents of the intestinal canal, a mild laxative was given, such as five or ten grains of blue mass, followed by calcined magnesia, or castor oil, combined with a little laudanum, or sol. sulph. morphiae, to prevent griping. Mucilage was administered internally; and none but the blandest kinds of food, such as arrow-root, well prepared farina, and rice water, were allowed. Avoiding carefully whatever might increase the local disorder, and applying cautiously the principles already laid down for the treatment of paroxysmal fever, we generally had the satisfaction of seeing our patients convalesce rapidly.

Of Emetics.—Dr. Mackintosh, in his *Practice of Physic*, says—“Emetics have been often extolled, but I believe very experienced tropical physicians will agree with me, in cautioning young practitioners against their indiscriminate employment. Irritability of the stomach is one of the most frequent and troublesome symptoms: and once excited, it is always difficult, and in many cases impossible, to restrain it. I have seen emetics exhibited, and the vomiting has

continued till death in spite of every remedy." This advice, against the *indiscriminate* employment of emetics in the treatment of tropical fevers is certainly judicious. But still there is a class of cases in which they can be used with safety and with manifest advantage. There are patients whose stomachs are loaded with food at the outset of the attack, or with acrid secretions, without tenderness at the epigastrium. A gentle emetic of ipecacuanha, with diluent drinks, administered to them, does good by removing speedily a powerful source of irritation, in this manner occasionally even preventing the occurrence of a severe gastric complication. But if no such reason for prescribing an emetic exists, the irritation occasioned by its presence in the stomach may be productive of much harm,—a state of catarrhal irritation may be aggravated into positive inflammation, and an inflammatory condition of the gastric mucous membrane may be intensified. Neither must it always be taken for granted, that, because the patient has nausea and vomiting, the stomach contains acrid substances, for in severe cases of the gastric complication these symptoms are present, though the organ is nearly empty.

Of Mercurials.—Calomel and blue mass have been and are now used so extensively, and with such apparent advantage in the treatment of tropical fevers, that at first sight it may seem an act of temerity in us to offer any strictures concerning their use. We have, however, had occasion to notice on the Isthmus of Panama, that the people generally are much more susceptible to mercurial influence than the inhabitants of temperate climates; that they are salivated more speedily, and with smaller quantities of the drug. We also observed that fever patients generally, who had been salivated either accidentally or otherwise, while under treatment, could not be discharged from hospital so soon by several days, as those who had not been salivated; that their convalescence was more protracted, and their recovery seemed to be less complete. Our experience is corroborated by that of other observers. While, therefore, we readily admit the great value of the mercurial preparations, as antiphlogistics, alteratives and cholagogues, it is our duty to declare that some caution should be used even in administering them to persons suffering from tropical diseases; and that according to our experience, thirty grains of calomel can seldom be taken with impunity by a patient having simple climate fever.

The principal cautions to be observed are the following:

- 1st. Never to administer mercurials except to accomplish a specific purpose.

2d. To use the mildest form which will accomplish that purpose, and

3d. To use the smallest quantity necessary to produce the desired effect ; and

4th. When mercury has been administered as an alterative, or a cholagogue, to always follow it in a short time with a laxative.

By attention to these rules, all the advantages to be derived from mercurials will be obtained, and many of their unpleasant consequences will be avoided.

. II.—OF CONGESTIVE FEVER.

This is not a disease *sui generis*, but one of the forms of malarious fever. Strictly speaking, it should have been described as climate fever with the congestive complication. But inasmuch as the object we have in view is to present a clear, though brief, description rather, than an accurate terminology of the diseases of the Isthmus, we shall not in this instance depart from the nomenclature in common use. The term *Congestive* has been applied to this form of malarious fever, because its most prominent symptoms are produced for the most part by a sudden retrocession of the blood from the external surface of the body, and a corresponding increase in the quantity of the circulating fluid, in the internal organs (Congestion). Greater or less abnormalities in the distribution of the blood among the various parts of the body, are present in every paroxysm of paludal fever, but the term *congestive* should be applied only to cases in which the symptoms are well marked or even alarming in character.

These symptoms vary much according to the seat, extent and intensity of the congestion. The general symptoms (i. e. those which are present in every well-marked case) are the following:—the attack is sudden, the surface of the body speedily becomes cold, shrunk, and bedewed with moisture; the countenance is pinched and pale or livid; the eyes are sunken, the voice is hollow and weak; in many cases the patient can scarcely speak louder than a whisper; the breath is cold, the pulse feeble, sometimes it is scarcely perceptible at the wrist, and the patient if conscious complains of general and extreme debility. If the lungs are the suffering organs, in addition to the symptoms just mentioned, the respirations are frequent, short and anxious, and the patient complains of dyspnoea, orthopnoea, or even says he can scarcely breathe. If the abdominal viscera are the seat of the principal congestion, the patient complains of a feeling of

excessive fulness, or even pain, in the belly, and his countenance in many cases presents a dusky hue. Copious vomiting and purging of bilious matter are often present; also convulsive movements of the extremities, or cramps occasioned by eccentric irritation, located probably in some cases in the alimentary canal. If the brain is the organ invaded, the symptoms are stupor, or even coma with stertorous breathing, an infrequent, slow and weak pulse, and contracted or dilated pupils. Again, if the spinal column is deeply involved in the congestion, the patient has a feeling of great uneasiness in the back, or even pain, and, in many cases, cramps, which are commonly most marked in the lower extremities. This we witnessed several times.

Diagnosis.—The only disorder for which a well-marked case of the congestive form of malarious fever might be mistaken is Asiatic cholera. The collapsed appearance of the patient, the cold, clammy and shrunken or washerwoman appearance of the skin, the feeble pulse, the weak, husky voice, and the distressing cramps, vividly recall the last-mentioned disease to the mind of the observer. The differential diagnosis is founded on the following points. 1st. In congestive fever, the evacuations which have been termed characteristic of cholera are invariably absent. The patient may vomit, but the matter ejected is bilious, and does not resemble "the rice-water." At the same time he may have frequent and thin stools, but instead of the choleric evacuations, they are generally bilious or muco-bilious in character. 2d. The type of the prevailing diseases assists in framing a diagnosis. If the severer forms of paludal fever are common, and not a single case of cholera has been seen for a long time, the probability is very strong that the patient has congestive fever; and 3d. The effect of remedial agents should not be overlooked. If this should answer no other purpose, it may serve in some degree to verify the diagnosis.

Treatment.—The first indication is to prevent further depression, and to facilitate or hasten reaction. This we sought to accomplish by external stimulation. We directed bottles of hot water or hot stones wrapped in cloths to be placed in the axillæ and about other parts of the body; the extremities to be diligently rubbed with oleum terebinth., and a suitable increase in the quantity of the patient's bedding. We also caused large sinapisms to be applied to the patient's body, and kept there till reaction had fairly commenced, shifting them from one spot to another as often as the pain occasioned by their use should seem to require. In some cases we directed dry cups to be applied directly over the organs most intensely congested. We did not administer any of the diffusible stimulants internally

except in a few hopeless cases, cases which were rendered hopeless by the feeble condition of the patient at the time of the attack, or by important pre-existing pathological lesions. If the congestion was located principally in the abdominal viscera, a purgative dose of calomel (20 grains and upwards) was administered. If distressing cramps were present, anodynes (opium and morphine) were prescribed for the purpose of mitigating the patient's sufferings, till the cause which had produced them could be removed. To check the vomiting, and to allay the intolerable thirst which was sometimes exhibited, we gave effervescing draughts, allowing the patients at the same time to drink fluids but sparingly. Pounded ice would have been very useful for the same purpose.

By the diligent use of the various means just mentioned, reaction was generally established in the course of a few hours, after which the febrile excitement always ran very high. To diminish the excessive febrile reaction is therefore the second indication to be followed in the treatment of congestive fever. This we endeavored to accomplish by the removal of all the irritants which had been used so freely during the cold stage, by enjoining rest and quiet, by tepid spongings of the body, and by the administration of refrigerant drinks. When the febrile movement seemed to be uncontrollable by other means, we have seen patients wrapped in wet sheets with speedy and well-marked benefit. This procedure is effected in the following manner: a sheet wet with cold water is spread over a mattress, and upon this the patient is laid, and the free edges of the sheet are turned over his naked body. Another wet sheet is then placed or spread upon the patient and its free edges are tucked under him. Outside of all, two or three woollen blankets are placed. In this manner the patient is completely enclosed, except his mouth and face, in a watery envelope. The procedure was generally grateful to the patient.

Thus we were generally able to obtain a remission within twenty-four hours from the attack, when the time had arrived to fulfil the third indication, or to prevent the occurrence of another paroxysm. This was accomplished by the administration of quinine in large doses, (from 10 to 20 grains,) commencing with the remission and repeating them at short intervals till the constitutional effects of the remedy, ringing in the ears, partial deafness, or blindness, etc., were produced. By such prompt and liberal use of this antiperiodic remedial agent, a recurrence of the paroxysm was invariably prevented. In regard to the administration of quinine during the

hot stage, we cannot speak in terms of unqualified praise, for we several times saw large doses given under these circumstances, with any thing but relief to the patient.

We have yet to notice the treatment of certain sequelæ or results of the morbid process under consideration. After the paroxysms have been arrested, the organs most deeply involved during the cold stage are apt to retain a congested condition. This we endeavored to remedy mainly by dry cupping and counter-irritation. For such lingering congestion of the brain, we applied blisters to the nape of the neck and to the inside of the thighs, dry cups to the temples, with cold applications to the head and the use of purgatives, if the patient was not too weak, or his gastro-enteric mucous membrane too irritable to bear them. For the relief of chronic congestion of the abdominal viscera occurring in this manner, we employed dry cuppings and large blisters applied directly over the congested organs, with manifest advantage. At this stage of the treatment, we did not meet with a single case in which the general or local abstraction of blood seemed to be necessary. In many cases even local blood-letting was not advisable, on account of the excessive debility of the patient. Some caution is necessary in the use of blisters upon the Isthmus of Panama. They should not be allowed to remain on too long, because the sores thus produced are sometimes extremely difficult to heal. Blisters should be applied only till their full *rubefacient* effect has been produced, and then the cuticle should be raised by a warm poultice. They should also be dressed frequently and carefully, because all of them, and more particularly those on the back of the neck, are liable to become "*maggoty*."

An idea of the relative frequency of *congestive fever* can be found from the hospital record at Bujo Soldado, already referred to. Of *three hundred and eighty-two* patients, *twenty-three* or rather more than one seventeenth had congestive fever. This disorder was most rife during the middle and latter part of the dry season, according to our observations. Many of the subjects attacked by it were young and robust, while others had been enfeebled by recent sickness. We noticed a proclivity to it among patients convalescent from dysentery, and these likewise were by far the worst cases.

III.—OF CLIMATE FEVER IN THE TYPHOID STAGE.

This occurred for the most part in persons who were enfeebled by previous attacks of fever, or who had injudiciously administered

to themselves *irritating purgatives*, and especially *alcoholic stimulants*, either for the gratification of a morbid appetite, or with a view to relieve themselves from the debility which both accompanies and follows an attack of the fever. Old drinkers seemed to be much more liable to it than temperate people. An attack of malarious fever with the gastro-enteric complication occurring in an intemperate subject, exhibited a tendency to run into it, especially if judicious treatment was not employed.

Symptoms.—The patient has generally been sick several days, and may be more or less emaciated, his eyes and countenance exhibit a vacant expression, his tongue is either red or brown and partially or completely dry, he has low muttering delirium and sleeplessness, a dry hot skin, a frequent and more or less feeble pulse, abdominal tenderness, muscular tremors, great debility, diarrhea with thin and small stools, consisting principally of muco-bilious matter often bright yellow in color and sometimes tinged with blood, abdominal pain and more or less tympanites. If the case progresses from bad to worse, the patient gets sordes on the lips and teeth, subsultus tendinum, he slides down towards the foot of the bed, passes his urine and faeces unconsciously, and finally coma and death terminate the scene.

Diagnosis.—This disorder is readily distinguished from typhus, by attention to the history of the case, and especially by the absence during the first stage of the nervous symptoms which always accompany the accession of the latter disease.

Pathology.—In almost all the cases which came under our observation, there seemed to be an inflammatory action of variable intensity in the mucous membrane of the small intestines, superadded to malarious fever. In many cases the patient had suffered from a sort of muco-enteritis for a longer or shorter space of time previous to the accession of malarious fever. Badly managed cases of climate fever with the gastro-enteric complication were apt to bring about a typhoid state of the economy, or to assume a typhoid aspect. The reason of this is not difficult to be understood.

Treatment.—We endeavored to effect the cure of the local lesion at the same time avoiding whatever might diminish the patient's strength. We sought to accomplish this principally by the application of poultices and counter-irritants to the abdomen. Sinapisms often repeated, and blisters were used with manifest advantage. Warm poultices containing a liberal quantity of ol. terebinth., kept on the abdomen for some time, seemed to do good in some bad cases

that came under our observation. At the same time we administered internally mucilage gummi acaciæ, combined with an alkali such as the carbonate or bicarbonate of soda, if the stools were bright yellow in color or acrid in quality, which was nearly always the case. If the biliary secretion seemed deficient, we generally gave a few grains of blue mass, except the remedy was manifestly contraindicated. To produce sleep at night we resorted to tepid spongings of the body, bathing the temples and head, and the internal use of morphine or Dover's powder. Larger or even full doses of these narcotics were rarely required. We also used them in small doses with benefit, for the purpose of diminishing the quantity of the evacuations when excessive. At the same time we endeavored to support the patient's strength by a diet as bland as possible, consisting principally of arrow-root carefully prepared, with the addition, in some cases, of chicken broth. Owing to the poor quality of the beef on the Isthmus, we could not obtain beef-tea suitable for our patients.

Under this simple plan of treatment, marked improvement generally took place. The tongue became moist, the skin cooler, the pulse less frequent, the intellect clearer, the secretions more abundant, and the belly less swelled and tender.

As soon as a well-marked remission occurred, we usually administered quinine freely for the purpose of arresting the paroxysmal fever, combining the antiperiodic agent with a little Dover's powder or powdered opium, if the bowels continued to be very loose or irritable.

The convalescence was generally protracted, and during its continuance, it was necessary for the patient to be very cautious with regard to both the quantity and quality of his diet. Irritating kinds of food taken too soon or in too free a quantity, were exceedingly apt to occasion a relapse, or to produce a troublesome diarrhea. Indeed a disposition to looseness of the bowels remained in some cases for a considerable length of time after recovery.

Entertaining the views concerning the pathology of the typhoid stage of the climate fever which have already been mentioned, we did not see the propriety of administering alcoholic stimulants, in a single case. They seemed to us likely to add fuel to the flames already kindled, and therefore much more likely to injure, than to benefit the patient. Without their use, we have seen apparently most desperate cases recover under the simple plan of treatment just described.

IV. OF INTERMITTENT FEVER.

This disorder does not claim a lengthy notice in this connection. Except the remittent, it was the most common form of fever among American and Europeans on the Isthmus, according to our observations. Its most common types were the quotidian and tertian, but the quartan was by no means infrequent. We also saw a considerable number of cases in which the double tertian, and a smaller number in which the double quartan type was present. Besides these, many cases came under our notice in which the cold stage was either entirely absent or but partially developed, cases in which the hot and sweating stages alone were distinctly exhibited. This form of intermittent fever seemed to be the connecting link between fever and ague and remittent fever, and on this account it is again mentioned in this place.

We also observed that the paroxysms, after having been arrested, showed a strong tendency to return on the seventh, fourteenth, and twenty-first days after such arrest, and we turned this fact to a practical account, by supplying our patients with quinine, to be taken for the purpose of preventing such a recurrence of the paroxysms. In some cases the chills returned at irregular intervals, which was probably occasioned by accidental circumstances. These remarks are almost equally applicable to the recurrence of the remittent form of fever on the Isthmus.

In the treatment, we made a liberal use of laxatives and quinine. Purgatives, particularly irritating purgatives, were seldom administered by us. They seemed to be in nowise necessary, and in some cases might be productive of much injury.

We have stated that the results of the treatment of the diseases of the Isthmus of Panama, were favorable as far as our observations extended. What were those results? every reader will ask. The hospital record, to which we have so frequently referred, affords a satisfactory answer.

Of the 382 patients, 8 died of the following diseases, viz :

Tuberculosis of the Lungs and Climate Fever,	-	1
Climate Fever and Delirium Tremens,	- - -	1
Climate Fever and Enteritis,	- - -	2
Debility consequent upon Congestive Fever,	- - -	0
Erysipelas and Dysentery,	- - -	1
Chronic Dysentery and Splenitis,	- - -	1
Congestive Fever, Enteritis, and Dysentery,	- - -	1
Congestive Fever occurring during convalescence,	- - -	0
From Dysentery,	- - -	1

Total, 8

In the preceding pages we have not endeavored to present a systematic treatise upon the fevers of the Isthmus of Panama, but to record, in an intelligible manner, some of the results of personal observation in a new and extensive field.

The length to which this paper has already been extended, makes it necessary to reserve our account of Dysentery, Diarrhea, Hypertrophy of the Spleen, etc., for a future article.

ART. X.—*A Review of "Remarks and Recommendations on the Professional Education of Dentists,"* by JOHN TRENOT, M. D., Dentist of New-York." By AMOS WESTOOTT, M. D., Professor of Theory and Practice in the "New-York College of Dental Surgery," Syracuse, N. Y.

THE above is the title of a paper recently published in the "New-York Journal of Medicine," and which subsequently appeared in pamphlet form.

From the high reputation which the author has long enjoyed as a professional man, and from his present position as a dental professor in one of our first Medical Colleges,* it is to be presumed that this article will not only be read by both the medical and dental professions, but that its teachings will thus be made to exert a marked influence in creating or fixing public sentiment upon the important subject discussed.

It is for this reason mainly, that, differing as we do in many particulars, with the author, we have felt that a review was called for, and it constitutes our main reason for engaging in a discussion from which we have hitherto stood aloof. The author of the article in question, declares it to be his object, "to show that in the practice of dentistry, a thorough knowledge of medicine and surgery is absolutely essential, to enable the practitioner clearly to understand, and successfully to treat, the cases which are constantly coming under his care." "That this may be more fully demonstrated and clearly understood," he continues, "it is proposed to treat, *first*, of medical dentistry; *secondly*, of surgical dentistry; *thirdly*, of mechanical dentistry; and *fourthly*, of that course of professional education, by

[* This remark, we presume, is based upon a report which has appeared in at least one of the Medical Journals of this City, that in the College of Physicians and Surgeons a chair of Dental Surgery has been created, and Dr. Trenor appointed to the same. We have been assured from a reliable source that this step has not yet been taken.—*Ed. N. Y. Jour. Med.*]

which these several branches can be best acquired and combined, which, with some remarks upon the mode in which this is now endeavored to be attained, will close this communication."

Now had the author of this article adhered to his original proposition—that of showing the necessity of a knowledge of medical science to the judicious practice of dental surgery, or had his "remarks" upon dental education, been legitimate deductions, or conclusions, drawn from his previous argument, we should by no means have taken issue with him.

The proposition that dentists should be well versed, at least, in all the elementary branches of general medical science, of course including the principles of surgery, is one for which we have been for many years a warm advocate; and Dr. T. will find, if he will take the pains to look through the "*American Journal of Dental Science*," several hundred pages devoted mainly to this subject, written by us, in which we have not only endeavored to show the importance of such a preliminary education, but also to arouse the attention of our profession to this subject. But after carefully examining his article, we can see no more connection between his original proposition, or his argument upon it, and his "remarks upon dental education," than between a *long* and friendly letter and its pungent postscript, containing a sharp dun—the former only serving as a menstruum, in which the author attempts to conceal and administer the latter.

Before proceeding to review these doctrines and "remarks" in detail, we shall first present a brief synopsis of his whole argument, and of his still more extraordinary deductions, that the reader may be enabled to see at a glance, the character of the paper under consideration, and, as a consequence, the fitness or unfitness of *our* "remarks" in reply.

If the arguments and "cases" of our author under the first subdivision—that of medical dentistry, prove any thing, they show—

1st.—That a full and complete medical education is necessary to qualify the dentist for the proper discharge of his duties as a dental surgeon.

2d.—That physicians educated in the ordinary way are not qualified to practise nor advise correctly as dental surgeons; and

3d.—That our medical schools, as now conducted, are incapable of imparting the proper and necessary information.

These conclusions are not mere deductions from the views he presents, but rest upon his positive assertion.

A very similar suit of conclusions are arrived at by Dr. T., in respect to the study of surgery, and the fitness of this class of doctors to practise dentistry.

The *third* subdivision of Dr. T.'s subject is mechanical dentistry. This department he passes over somewhat lightly; making its importance altogether secondary—assuring the student "that the path" to excellence in this department, "though with many deviations, seldom passes beyond certain bounds, all the peculiarities of which are so frequently met with, that a few years' experience makes him, *necessarily*, familiar with them."

Dr. T.'s *fourthly* is made up, principally, of "remarks on dental education," which remarks are *offered* as deductions from the "foregoing" remarks under the other heads; but as we have already said, they far more resemble a postscript upon some other subject, than deductions, or any other species of supplementary remarks in any manner connected with the subject. Nevertheless under this head he sets forth conclusions to which *he* has arrived, which are as follows:

1st. That notwithstanding he offers the belief that "there is not a medical school in the country, in which either of the professors of the practice of medicine, or of surgery, even make the slightest allusion in their lectures to this specialty, the professors of anatomy being the only ones who touch at all upon this topic, and for all practical purposes, the little they do say is altogether useless," yet he is firmly convinced, that by superadding a single dental chair, "all these difficulties and impediments could be speedily and entirely removed."

The second conclusion come to under this head, is, that "what are termed dental colleges," are institutions wholly without merit, not only incapable of remedying the evils of which he so much complains, but that "they most effectually and glaringly magnify them."

But let us return, and notice more in detail the *arguments and facts* adduced by Dr. Trenor, commencing with his "firstly," or "medical dentistry," and to which we may add his "secondly," or "surgical dentistry," both being treated by him in the same light.

Now in regard to the general proposition that *the dental surgeon should* be familiar with the human system, and with all its laws, both in health and disease, and with such collateral branches of science as are necessary to elucidate the whole subject; or that he should in short be familiar with at least every elementary branch of medical science, surgery included; we say this is a proposition, the truth

and justness of which we not merely admit, but contend for. Nor are we more inclined to dispute his *second* conclusion, under this head, viz., that physicians not specially, or dentally educated, are not qualified even to act as dental advisers, much less dental practitioners. Nor his third conclusion, viz., that medical schools, as now constituted, are incapable of imparting the necessary information or instruction to qualify students for the practice of dentistry.

This last conclusion or rather *fact* we learned at no small cost, having sought to qualify ourself through this means to discharge the duties incident to dental surgery. But after having attended two full courses of medical lectures, with this object distinctly and anxiously in view, and had received the *honorable*, not the *honorary* degree of Doctor of Medicine, we found ourselves in possession of all the requisites, *except qualification*, to embark in the profession which we had chosen; and we can most safely add our testimony to the truth of Dr. T.'s statement relating to these schools, when he says, that in them, "the subject of this specialty" (dentistry) "is never alluded to."

But while it is true that Dr. Trenor and ourself have come to very similar conclusions upon the points above referred to, it is equally true that the *reasoning* which has brought us to these conclusions is most widely variant, as are also the corollaries which we respectively draw, relative to *dental education*. It is common to suppose that it matters little what may be the reasoning, so that the conclusion be correct, and this would perhaps always be the case, did such reasoning or theory apply only to the single point upon which the conclusion is drawn; but in this, as in most other cases, the reasoning or theory has a *practical* bearing, whose influence radiates in many other directions, and upon which may depend most important practical details. And most emphatically is this true of the theories presented by Dr. T. to sustain his position. It is for this reason only, that we are induced to notice the reasoning or theory on which Dr. T. founds particularly the *first* of the three conclusions just noticed, viz., the necessity of medical knowledge to the dental practitioner.

Dr. T. commences his argument by informing us "that in all general derangements of the system, and of local ones also, characteristic alterations are produced upon the soft parts of the mouth."

* * * * "Whatever be the character or severity of the deranged state of the mucous membrane, and soft parts of the mouth, the *teeth*, from their immediate connection with those parts, are necessarily exposed to, and materially and injuriously influenced by, these changes, be they mild or otherwise."

* * * "Not only does all observation and experience fully sustain the correctness of the foregoing remarks, but they establish with equal unerring certainty, the destructive effects which all deviations from the standard of health exercise upon these important organs." "Indeed," he adds, "there are no other facts more *popularly* associated together, or more unequivocally correct in themselves, as cause effect, than with *bad health* to have *bad teeth*."

"The influence of a healthy or diseased state of the system is in no particular more decidedly manifested, than upon the organs of mastication."

Now note the conclusion. "Hence the obvious and absolute necessity, that the practitioner who undertakes to treat the diseases of the one, should be familiar with the causes, their character, variety, &c., &c., which produce them in the other." In other words, this reasoning and conclusion of Dr. T. may be briefly thus stated:—Inasmuch as the diseases of the teeth are directly derived from, and depend upon, "disease of the soft parts" of the system, it is necessary to study these diseases in the general system in order to comprehend and properly treat the corresponding diseases of the teeth !!

Although it was not designed to enter into a discussion of theories in dental science, yet to leave entirely unnoticed this doctrine, which forms not only the basis of his whole argument, but which lies at the very foundation of all correct dental practice, would certainly be an oversight.

The doctrine is, "bad teeth" arise from "bad health"—or that every disease of the general system imparts its effects to the teeth.

Now if by "*bad teeth*," we are to understand *decayed* teeth, as we are authorized to conclude from this and other portions of his article, then we say that Dr. T. has not adduced a single fact to prove this position; and it is one, moreover, which we feel at liberty to deny in most unqualified terms. Such a doctrine necessarily implies, that such morbid agency is carried on through the medium of the circulation—that its ultimate effect in producing decay is from an inflammation in the bony structure—and that cavities in the teeth, hence, must be *internal*, or at least beneath the enamel—doctrines only, and alike, remarkable for their age and absurdity.

[Here follows Dr. Westcott's arguments in support of his position above taken; and also a criticism upon the cases reported in Dr. T.'s paper, both of which, for want of space, we are obliged to omit. *Ed. N. Y. Jour. Med.*]

What course of instruction is best adapted, and in what way can it be best furnished, are the questions sought to be discussed in Dr. Trenor's *fourthly*, to which we will now direct attention.

Beside that of private tuition, the inefficacy of which, in most cases, is generally admitted, there have been two other methods proposed, and to some extent carried into execution—the one by superadding a dental chair to the present board of professors in our medical schools; the other by instituting schools for this specific purpose, or by the establishment of Dental Colleges.

Now we complain that Dr. Trenor, in his article under consideration, instead of fairly discussing the respective merits of these two plans, has made it his principal aim, and that too mainly by mere assertion, to laud the former, and *anathematize* the latter.

Of the former method, that of adding a dental professorship to our medical schools, he says, it is a plan by which "all the difficulties and impediments could be *speedily and entirely* removed;" but in reference to the latter, Dental Colleges, he asserts that "they are a greater drawback to improvement than if they had never existed." Nay more—"they profess to remedy an evil which they most *effectually and glaringly magnify*."

Now, these are pretty strong assertions, and it is of the greatest moment, not only to the dental profession, but to the community at large, to determine their truth or falsity.

To say the least, they are positions which should be backed by a strong array of facts and by sound logic. Now, in all candor, we ask, has Dr. Trenor, in the whole of his labored article, adduced *one single fact showing, or even tending to show*, that all, or any of the evils, which he so graphically describes, and which are universally felt and deplored, "would be speedily and entirely removed," or would be removed *at all*, by superadding a dental professor to those already existing in our medical schools? We say *not one*.

On the other hand, Dr. T. has not even pretended to show, by either arguments or facts, that Dental Colleges are not *exactly* calculated to meet the end for which they were instituted. His remarks under this latter head, are not only *wholly* made up of naked assertions, but they are assertions moreover, which show either that he is willing to *mislead* in regard to their organisation, or that he is wholly ignorant of their plan of instruction, &c.

Dr. T., at the commencement of his article, alludes to this discussion, as having been carried on by Drs. Gardette and Harris, and offers the opinion that *each* of these gentlemen "are abundantly able

fully to illustrate and *sustain* the views which they have respectively assumed;" but it would seem before he gets through, saying nothing of the intrinsic difficulty of "*sustaining*" both of two antipodal positions, that he has discovered, that while the former is "abundantly able to sustain" *his* position, the latter comes off wholly vanquished, and with his cause entirely annihilated. This discussion between Drs. Gardette and Harris, we read with great interest and care, but the conviction which it left upon our minds was, that neither was quite right; for while we differ most emphatically with the former of these gentlemen, in supposing that this superadded chair can furnish the adequate and necessary instruction for qualifying the student for the *practice* of dental surgery, the effect upon the *dental profession*, so much feared by the latter, gave us no uneasiness. The impressions which we have entertained have been entirely favorable to these superadded chairs, and if their benefits are curtailed, or, much more, transformed into evils, it will be by making improper selections to fill them—by appointing men more thoroughly imbued with prejudice than science, and who regard these chairs not merely *a* means, but the "*only*" means of disseminating dental intelligence, and of correcting the evils of empiricism—men, who feel that these chairs must, of necessity, place themselves in a hostile attitude towards all other means and institutions professedly having the same end in view. But we entertain no doubt that their effect, *if properly filled*, is to be salutary upon both professions; for while they may be made to impart to the general medical student much useful and valuable information, they may effect much good as auxiliaries to Dental Colleges, by doing something towards preparing the student for a more thorough and practical course. We have also looked favorably upon the influence they would be likely to have upon the *public*, by bringing into more general recognition the higher claims of dental science through medical practitioners. Physicians themselves have too long underrated dental surgery as a branch of the healing art; nor is this to be wondered at, when we consider that they have had no more means of judging of its merits than theologians or lawyers, never having heard this specialty even alluded to in any lectures they have attended, or in the books which they have studied. This certainly is wrong, particularly when we consider that the community so generally look to them as legitimate counsellors and guardians upon this subject. This evil, and it is one of much greater magnitude than is generally appreciated, could, by such a professorship, be in a great measure corrected. But, to suppose that a single teacher,

in a school where from six to eight teachers of other branches are each making an equal draft upon the time and attention of the student, could give a course calculated, or in any degree adequate to qualify students for dental practice, is the very acme of presumption and folly.

This must be left for institutions where the entire time of the student is to be devoted to dental subjects, where even the elementary branches of anatomy, physiology, pathology, therapeutics, and chemistry, are taught strictly with reference to qualifying students for the *practice* of dental surgery. Is then the student in general medicine, although he may be studying the same general facts and principles which constitute the basis of much of dental practice, on the right road to dental qualification? This is not only an important question in many points of view, and one lying at the very basis of this whole discussion, but it marks the exact point at which the views of the disputants on this question begin to diverge.

Although Dr. Trenor admits, nay, avers, that "there is not a medical school in the country in which either of the professors of the practice of medicine or surgery ever make the slightest allusion in their lectures to this specialty (dentistry), the professors of anatomy being the only ones who touch at all upon the subject; and for all practical purposes, the little they do say is altogether useless;" yet, he seems some how or other to be fully impressed with the idea, that the students who attend such lectures, must be *impregnated* with a sort of *latent* knowledge of the whole matter, and which, like the latent caloric of cold air, can, by the "condensing syringe" of this dental professor, be *suddenly* eliminated and set free!

Now we confess that we have not the slightest faith in any such alchemic transformation.

Although we may grant that a little leaven may leaven a large lump, yet this requires an essential condition, which does not at all enter into Dr. T.'s plan, and which he seems wholly to have overlooked, and this is, that *the leaven must be interspersed and diffused throughout the whole lump.*

The leaven which the "woman took and hid in three measures of meal," we venture to say, was not done up in a separate parcel, and "hid" in one corner, but it was so interspersed throughout the whole mass, as to be brought into contact with, and exert its influence upon every particle. Now how is the leaven of this dental professor to diffuse itself throughout the mass of lectures, given by a board of medical professors, who, as Dr. T. admits, have "never made the slightest allusion" to dentistry?

No teaching is worth having, particularly if taught to qualify one for a practical employment, *unless the facts and principles as they are presented are applied practically* to the pursuit in question, and much less would it be valuable if every application which was made, as in the case of these medical lectures, had reference to something *foreign* to the object of such pursuit. Now it is evident, from Dr. T.'s own testimony upon this point, that not one of the professors in a medical school ever make a single application of either facts or principles to dentistry; for this would be very difficult, if "they never make the slightest allusion to this specialty."

If therefore, the dental student gets such applications in a medical college as would render the lectures, say of seven-eighths of the professors, of the least avail to him, the dental professor would have actually to repeat, at least in substance, the lectures of every other teacher in the school. This would be impracticable, for two very obvious reasons.

First, no man could, in the time which would be allowed him, in such an institution do any such thing; and secondly, were this possible, no class of students could be found, who would have either the time or inclination to listen to his epitomizing dissertations.

Will it be said that we lay too much stress upon the proper *application of facts and principles as they are presented*? Why, practically, the application is not only the gist of the whole thing, but it constitutes the sum and substance of all utility connected with it. Nor would it be at all reasonable to suppose the uninitiated *student could anticipate* and make all the appropriate and practical applications which perhaps had been overlooked by older heads, and which for a long time had been well stored with these very facts and principles. Such a supposition would, to a very great extent, imply that no new art or science remains to be discovered, nor any old ones improved, nor new inventions made; for all these must depend mainly on *new applications* of long familiar facts and principles.

What marks the essential difference, between dentistry as now practised, and dentistry as understood and practised fifty years ago? Has the change been wrought by the discovery of a host of new facts and new principles? By no means. Almost the entire difference, and which is certainly a very great one, *consists in new applications* of Medical, Chemical, and Mechanical principles, and facts which were nearly or quite as familiar at that day, as at the present.

There is scarcely a greater difference between any two distinct sciences, or arts, than there is between general and agricultural chem-

istry, while the latter depends entirely upon the principles of the former. In what then consists this comparatively new science which has wrought such great changes in agriculture in every civilized country?

Essentially, if not wholly, in new applications of old and well-known facts and principles. Is there no distinction between Electro-telegraphing, and the abstract principles of Electro-magnetism, which were understood many years before this magic machine was invented?

Professor Morse did not create, or even discover, either the facts or principles upon which his wonderful invention was based, but he *simply applied* those already understood to a new purpose, or in a new way. But the result was no less momentous or astonishing; nor does this in the least detract from the honor due the inventor.

Now in the light of these facts and considerations, let us examine for a moment the resources of a medical school, even with this appended dental chair, and see how far they meet the end of qualifying students for dental practice.

We have seen that "not the slightest allusion is made to dentistry" by the *medical* professors—the *impossibility* of a sufficient recapitulation of these lectures by the *dental* professor, to make the necessary practical application, and lastly the *utter inutility* of such lectures without appropriate applications. But waving for the time all these formidable obstacles, another set hardly less serious are at hand, staring us in the face. These may be in general terms expressed by saying, that while medical schools teach far too little, they at the same time teach far too much. In other words, the subjects discussed from the respective chairs in a medical college, by no means embrace the whole range which should come into the catalogue of subjects which must be understood by the intelligent dentist. The facts and principles peculiar to dental science, and which never come into the programme of medical lectures, embrace a wider and more extensive field, than can be cultivated by any one man, during the time allotted, to any single chair, in any institution; and this without including a single item relative to mechanical dentistry, which deserves a very different consideration from that given this branch by Dr. T., particularly, if we include as he has done, under this term, those delicate and difficult manipulations involved in surgical dentistry. Here then there is a demand for at least two dental chairs, and not less than one demonstrator of operative and mechanical dentistry; and in dental schools, even the combined efforts of

these three teachers, are hardly sufficient to meet the demand for this kind of instruction.

Now, while it is true that medical schools, even with this supplementary chair, must fall far short of covering the whole ground, even in the imperfect way described, it is equally certain that they embrace far too wide a field. To any one familiar with what is taught in medical colleges, this is a proposition too nearly self-evident to require a single word of elucidation. What possible claim can the professor of obstetrics set up, in asking the dental students to listen to his course?

Examine the array of subjects presented and discussed, from the chair of "theory and practice of medicine," and how many of them will you find in any degree approximating dental subjects, or in the least calculated to benefit the dental student, except so far as they may occasionally elicit some fact, or general principle, but which, as we have contended, is scattered to the winds for want of proper application. It is hardly necessary to inquire, how much the dental student would be interested in the subject of cholera, small-pox, eruptive diseases, and in short, almost every disease of the general system, as discussed from this chair. It would be almost an equal waste of time to pursue the same inquiry relative to the topics discussed from the chair of general surgery. As in the case of the other chairs, the professor of surgery may, and must, often exhibit facts and principles, which, if properly applied to the subject in which the dental student is directly interested, would be of great service to him; yet much the greater proportion of the time of this professor is spent in discussing such accidents, operations, and diseases, as cannot by possibility either interest or practically benefit him in the least. Nor is this same objection invalid as applied even to the more elementary branches of medicine, anatomy, physiology, pathology and chemistry. The topics discussed from these respective chairs may be so curtailed and modified, as to embrace every item interesting to the dentist in a far less space, and in a way requiring not more than one half the time usually allotted to these discussions.

Now upon one point we wish not to be misapprehended. Our objection to this mass of incongruous, and if not inapplicable, most certainly unapplied material, as offered by Dr. T. to the dental student, is not that we are afraid that any amount of intelligence upon every and all subjects, is to render him the less qualified to practise his profession judiciously, but it is, that they are crowded in and

made to take the place of that which is indispensable in a proper dental education. They not merely occupy a space, but they usurp it to the exclusion of what is essential to qualify them to practise the profession at which they are aiming. Is it not then the very height of absurdity, to expect that a proper dental education could be acquired at such an institution?

At the very best, it would be like advising a 'New-Yorker, who wished to go to Boston, to make his trip by way of Buffalo and the Canadas. This might do for the pleasure-traveller, with full purse, and an abundance of time, but it might ruin the man of business, and especially the young man, who, with his hard-earned and limited means, is under the necessity of taking the most direct and economical route to his place of destination.

We have now enumerated, and endeavored to scan the means which Dr. T. assures us are sufficient "speedily and entirely to remove all the difficulties and impediments" arising from "an entire want, up to the present period, of any efficient, systematized course of instruction in dentistry;" and now, as to how fully he has sustained these remarkable assertions, we leave the candid reader to judge.

But Dr. T. is not satisfied with establishing, as he evidently and most complacently supposes he has done, the great merit of his peculiar and extraordinary views upon dental education, but carries the matter so far, as will be seen by the above quotation, as to deny that any other "efficient and systematic means" ever existed.

This assertion is made with the full knowledge of the fact that there were, at the time he wrote, three dental colleges in the United States, one of which has been in operation nearly twelve years.

But in respect to his opinion of these institutions he has not left us to conjecture. "Under the plea of remedying all these evils," he says "what are termed Dental Colleges have been recently brought into existence!"

This astonishing announcement is followed by a complaint, that "some of the members of the medical profession have, without sufficient investigation, accorded to them a degree of countenance and approbation to which it can be easily shown that they are by no means entitled."

He continues by *asserting*, not by "showing," that "they come before the public with such confident promises and plausible pretensions, and, as at present constituted, are so decidedly inefficient, that they are a greater drawback to improvement than if they had never existed." "They profess to remedy an evil which they most effectua-

ally and glaringly magnify. They hold out the idea of giving a complete and finished course of instruction on dentistry, while full two-thirds of what should be taught, and that the most important too, namely, all the instruction which every medical school inculcates in medicine and surgery, it does not enter into their arrangement, nor do they possess the ability with any degree of usefulness or benefit to perform."

Having examined "the letter," we will now look at the postscript which we have quoted above. We confess that his last sentence is somewhat jumbled and confused, but if we understand these quotations aright, they contain the four following grave charges against dental colleges, viz:—

1st. It does not enter into their arrangement to give *any* of that instruction which every medical school inculcates in medicine or surgery. 2d. If they had any such arrangements, "they" (their managers or teachers we suppose he means) "do not possess the ability to perform with any degree of usefulness or benefit."

3d. They profess to remedy an evil which they most effectually and glaringly magnify.

4th. The fourth charge is rather in the light of a corollary, and may be thus stated—therefore "they are a greater drawback to improvement than if they had never existed!"

Now what proof has Dr. Trenor offered to sustain his general abuse and attack upon dental colleges? Is it contained in his groundless theories, of which the first half of his article is made up? Or in the cases presented of outrageous blunders committed by "eminent surgeons and physicians" in their attempts to turn dentists?

As to his theories, they prove nothing at all, they themselves having no foundation in fact; and as to his cases, they show most clearly that some means differing *widely from those furnished at medical schools*, are necessary to qualify men for practising dental surgery. If Dr. T. intended to wind up his articles with these broad charges, why did he not, while enumerating cases, find *at least one* which would show that those who had graduated at "what are termed dental colleges" were still uneducated, or in any sense unqualified for dental practice? There are now in the United States at least one hundred and fifty regular graduates of dental colleges, and had we been about to condemn the whole race, we would have taken some pains to look up at least one ignoramus among them, and held *him* up to ridicule, instead of those "eminent surgeons and physicians"

who were educated at the very place declared by Dr. T. to be the only one calculated to make good dentists.

But let us return and examine a little more in detail his first charge, which is in substance, that "it does not enter into the arrangement" of dental colleges, to teach the necessary principles of medicine and surgery, and which may be acquired at medical schools.

Our first remark in regard to this assertion, or charge, is, simply, that it has not the slightest foundation in truth. We can perhaps in no better way show this, than by exhibiting the *actual* "arrangement" of these schools, in respect to their chairs, and the subjects discussed from each. In the "New-York College of Dental Surgery," at Syracuse, and which has received the sanction of the Legislature of the State of New-York in granting an ample charter, there are five professorships and one demonstratorship. *Three* of these professorships are devoted to the discussion of those scientific subjects, arranged under similar chairs, in medical schools.

The other two chairs pertain purely to the science and practice of dentistry—while it is the business of the demonstrator to see that each student carries out their teachings in actual practice, both in mechanical and surgical dentistry. The names and functions of the respective chairs in this school, are as follows, viz. :

- 1st. Anatomy and physiology, and general principles of surgery.
- 2d. Special pathology and therapeutics.
- 3d. General and special chemistry.
- 4th. Theory and practice of dental surgery, and dental technology.
- 5th. Institutes of dentistry, dental hygiene, and comparative dental anatomy.

This is the "*arrangement*" of which Dr. T. avers that "it leaves out full two-thirds of what should be taught, and that the most important too," the truth and fairness of which we now leave the reader to judge.

It is true that we have no chair of obstetrics, nor of "theory and practice of medicine," nor of *general surgery*, simply because in our judgment the subjects appropriate to these chairs are mainly foreign to dentistry, and because their place can be supplied by those far more necessary and useful to the dental student—their place being taken by the two dental chairs above named; and the demonstratorship.

The broad and exact distinction between dental and medical

colleges, is, that while in the former are taught all the elementary branches of medicine and surgery, and every fact and principle exhibited is so applied as to have strict reference to dentistry, they leave out of their "arrangements" the chairs of a medical school, pertaining to *practical medicine and surgery*, and supply their places with those pertaining to dental science and practice. Now how does this plan and arrangement accord with Dr. T.'s assertion, that no provision is made to teach any thing but mechanical dentistry?

If Dr. T. knew what *was* the "arrangement" in each of the dental schools, for teaching in the most thorough manner every elementary fact and principle in general medical science, and this too in the right way, with reference to a *dental* education, the barefacedness of his assertion to the contrary stands out in bold relief; and if he was ignorant of the whole scheme, and this is certainly the most charitable construction, then the least shadow of modesty would have dictated the withholding of such opinions and assertions, till he did know what their arrangements were.

In respect to Dr. T.'s second charge, that of want of "ability" of the teachers in these schools, we cannot, without borrowing some of his delicacy and feeling, say much. About the only comment we are inclined to offer upon this subject, is, that these medico-dental chairs in each of these schools, are filled by men educated in the very way in which he points out, and at the place of which he says, it is the "*only*" place whereat one can obtain the proper education.

Not only so, if we mistake not, most of the teachers in these departments in the several dental colleges, were previously teachers in medical colleges. The chair of anatomy and physiology in the "New-York College of Dental Surgery," is occupied by a gentleman who had for ten years stood high as a teacher of similar branches in one of our first-class medical schools, and the chair of pathology and therapeutics by one who had been a professor in a medical college formerly, for nearly twenty years. Now if these men have all at once become *incapacitated* for teaching, simply because they now lecture to a dental class, it is a phenomenon not easily comprehended by common minds, and we therefore pass it to Dr. T. for solution. If he makes this point as clear as he has some of his other positions, we trust all will be satisfied.

The *third* charge is, that "they *profess* to remedy an evil which they most effectually and glaringly magnify."

This and the following, or fourth charge, which declares dental colleges to be not merely powerless in respect to advancing dental

education, but positively "a great drawback," may be considered in the same connection, they being somewhat similar in import, and alike exhibit the self-same complacency of our author in making assertions.

After having shown the groundlessness and absurdity of the first and second charges, upon which the last two entirely rest, it would be a waste of time to give these a separate consideration. In regard to them we have only to remark, that they express sentiments which we exceedingly regret to see put forth by one occupying the high and responsible post which our author has been selected to fill. For him, or any other man, to feel that to foster one scheme for promoting dental education, necessarily demands hostility on his part towards every other plan, and moreover, that he should feel called upon to express such bitter vituperations against not only the project itself, but against all connected therewith, we say, this seems to us not only great folly, but exhibits a spirit which must greatly curtail his good offices as a teacher.

In our remarks thus far, we have only *incidentally* considered the claims of Dental Colleges, but we trust that enough has been said to divest them of a little of the odium sought to be cast upon them by Dr. T., though we may have failed to demonstrate that they are the "only" means of furnishing a complete and systematic dental education. We have referred to their organization, and shown that it amply provides for imparting in the most thorough manner all of the necessary instruction in general medical, surgical, and chemical science—that equal facilities are furnished for teaching, not only the *science*, but also the *practice* of dentistry. This last is done by furnishing the student actual practice, to be done by himself, and under the eye and direction of a proper teacher. If this brief outline of their arrangement shows that "full two-thirds of what should be taught, and that the most important too," is left out of their "arrangements," then we confess our inability to fill the blank.

Dr. T. has not even seen fit to inform us what this dental professor in a medical college is to teach, much less how he is to fill the tremendous void in medical schools as respects proper dental instruction. The term *dental professor* is, to say the least, wonderfully vague and indefinite, being just as specific as the term *medical professor*, which would vaguely imply a teacher of some one of a dozen departments in general medical science.

PART SECOND.

BIBLIOGRAPHICAL NOTICES.

ART. XI.—*A Complete Treatise on Midwifery: or the Theory and Practice of Tokology, including the Diseases of Pregnancy, Labor, and the Puerperal State.* By ALF. A. L. M. VELPEAU, M. D. Translated from the French. By CHARLES D. MEIGS, M. D., Professor of Midwifery in the Jefferson Medical College, etc., etc. Fourth American, with the additions of the last French Edition. By WM. BYRD PAGE, M. D., Lecturer on Obstetrics in the Philadelphia Medical Institute; Consulting Surgeon to the Philadelphia Hospital, Blockley, etc., etc. *With Numerous Illustrations.* Philadelphia: Lindsay and Blakiston. 1852. 8vo. pp. 652.

THE deserved popularity of M. Velpeau's *Midwifery* is such that it is only necessary for us to refer to the additions made to this edition. These are so numerous that the work may be said to have been almost re-written. Several new chapters have been added, and the whole work may be said to embrace now a full and complete exposition of the present condition of the science of midwifery.

ART. XII.—*Essays on Life, Sleep, Pain, etc.* By SAMUEL HENRY DICKSON, M. D., Professor of Institutes and Practice of Medicine in the Medical College of the State of South Carolina. Philadelphia: Blanchard & Lea. 1852. 12mo. pp. 301.

THESE essays from the pen of a distinguished professor will, we hope, from the interesting questions they involve, and the glowing style and devotional fervor which characterize them, command the attention of the good and philanthropic portion of our profession.

ART. XIII.—*A Treatise on the Anatomy, Physiology, and Diseases of the Human Ear.* By JAMES BYAN, M. D., Professor of Surgery in Geneva Medical College; Professor of Institutes of Medicine and Medical Jurisprudence in Philadelphia College of Medicine, etc. Philadelphia: Published by the Author. 1851. 12mo. pp. 124.

THE matter of this little volume is the substance of a course of lectures delivered in the autumn of 1850, before the class attending the Philadelphia College of Medicine. We have perused the volume with much pleasure and profit, and commend it to the favorable attention of the profession.

ART. XIV.—*An Analysis of Physiology: being a Condensed View of its important Facts and Doctrines, Designed especially for the use of Students.* By JOHN J. REESE, M. D., Lecturer on Materia Medica and Therapeutics in the Medical Institute of Philadelphia, etc., etc. Second Edition, revised and enlarged. Philadelphia: Lindsay and Blakiston. 1852. 12mo. pp. 368.

THIS edition of the *Analysis of Physiology* has undergone an entire revision—has been re-written, and much new matter added. To the student of medicine it will prove valuable and useful while revising his studies.

ART. XV.—*Elements of Chemistry.* By THOMAS GRAHAM, F. R. S., Professor of Chemistry in University College, London, etc., etc. Second American from an entirely revised and greatly enlarged English Edition. With numerous Illustrations. Edited with Notes. By ROBERT BRIDGES, M. D., Professor of Chemistry in the Philadelphia College of Pharmacy, etc., etc. Philadelphia: Blanchard & Lea. 1852 Part 1st, 480, pp. 430.

WE are much pleased to receive this work in an American dress. Its merits will command for this new edition a favorable reception. When complete we shall give it a more extended notice.

PART THIRD.

FOREIGN MEDICAL RETROSPECT.

PATHOLOGY AND PRACTICAL MEDICINE.

On Albuminous Urine ; and on so-called Chylous Urine. By H. BENCE JONES, M. D.

In cases of so-called chylous urine, albumen appears in the urine. I have here a specimen of urine made by a patient suffering from this disease. It was passed as white as you see it—indeed, whiter ; for, as it has been standing for some months, it has become a little darker by decomposition. In another portion of this same urine, you see the white matter has risen up into a curd. If I take a portion of this urine and treat it with ether, I shall find it contains a substance perfectly soluble in ether ; for, by agitating the two together, the urine loses its thick appearance, and becomes very nearly clear. (Experiment.) The ether rapidly separates again, carrying with it a great deal of fat, a slight deposit taking place. If I pour off the ether, and evaporate it to dryness, I shall get, not a crystalline mass, for the fat is not crystallizable, but a mass of fatty matter, such as you see in this specimen, which has been collected from many quarts of urine. I have here other specimens of the same urine, passed at different hours, in which no fatty matter is seen, nor can any be extracted by ether ; but if I add nitric acid, and apply heat, I shall find that there is plenty of albumen present. So, also, if I add nitric acid to the liquid from which the ether was poured off, I shall be able to show, by the dense precipitate which is formed, that, in addition to the fatty matter, there is also a considerable quantity of albuminous substance present. An interesting point, on which I was enabled to satisfy myself in this case, by drawing blood from the arm, was, that the blood did not contain any excess of fat whatever. The fat and the albumen only came at certain periods of the day ; and if I kept my patient quiet, that is, if I made him lie in bed, or if I examined the urine early in the morning, before he got out of bed, I found comparatively healthy water, most commonly not containing the slightest trace of an albuminous or fatty substance. If I made

him get up before breakfast, and walk about, he would pass urine containing no fat, but giving evidence of albumen in plenty, and sometimes, also, so much fibrin that the urine would coagulate, not into a white mass like blanc-mange, but into a sort of jelly-like brownish coagulum, consisting of fibrin, tinged sometimes with the coloring matter of the blood. If I made him take breakfast before exercise, the urine was milky, as in the specimen before you; but, by making him lie in bed, the water was more healthy; whilst, by giving him much food, more especially fatty food, an increased quantity of fat appeared in the urine. I made many experiments as to the effect of food, exercise, rest, and medicines; these are recorded in the *Philosophical Transactions* for 1850, but more perfect medical details are given in the *Medico-Chirurgical Transactions* for the same year. The patient is an intelligent man, who keeps an accurate record himself of the appearance of the urine each time it has been passed since I first saw him, a year and a half ago. There has been no trace of the disease for many months, except on last Christmas-day. I had warned him that any thing that gave increased violence to the circulation would bring the complaint back again; but after eating and drinking on Christmas-day, like other people, he came to me the next morning, bringing with him a specimen of his urine, which was milky. He was again put on the treatment which had proved efficacious before—gallic acid and rest, and again with perfect success. As much as a drachm or a drachm and a half, and even two drachms of gallic acid being given in the course of the day. Since Christmas the urine has been perfectly healthy, and I believe no fat or albumen will be found in it again, unless violent exercise is taken. With such exercise the feeble vessels allow these substances to pass through; but with rest and gallic acid the vessels are contracted, and thus the disease is checked.

The following table of the influence of diet, of pressure, by means of a strong belt, and of medicines, is taken from the *Medico-Chirurgical Transactions*.

Effect of Diet and Medicines on so-called Chylous Urine.

	Chyle in different degrees.	Free from chyle.
On animal food in 1000 observations	968 times	32 times.
Vegetable food	910 "	90 "
Pressure-belt loose	667 "	333 "
Pressure-belt tight	638 "	362 "
When matico was taken	474 "	526 "
When gallic acid was taken	17 "	983 "
After gallic acid was taken	0 "	1000 "

The most interesting fact connected with this case of albuminous urine, was the occurrence of the albumen only at certain periods of the day. It is very probable that this disease, in a much milder form, occurs more frequently than has been supposed, and possibly these are the cases in which gallic acid has been said to stop the albumen in the urine of Bright's disease.—*Medical Times*.

Vaccination Tested by the Experience of Half a Century. By GEORGE GREGORY, M. D.—Before the Royal Medical and Chirurgical Society a paper was read by Dr. Gregory.

The author commenced by observing that variolous inoculation was first heard of at Constantinople, in 1700, but was not practised in England till 1721, and did not become general till 1750. In 1746 the Small-Pox and Inoculation Hospital was established; and from this period variolous inoculation made favorable progress in the good opinion of the public throughout England. In France, however, during the same period, it was met with neglect, notwithstanding the efforts of De la Condamine to convince his countrymen of the merits of inoculation; and prejudice extended so far that the parliament of Paris, in 1763, prohibited the practice of variolous inoculation within the walls of that metropolis. The author then proceeded to notice the twofold object with which inoculation was performed—first, to banish from the mind all anxiety as to the taking of small-pox in after-life, by giving it at once; and secondly, to insure a mild form of disease, free at least from secondary fever. Inoculation was eminently successful in fulfilling and attaining these objects. Nevertheless it undoubtedly had its disadvantages: it was essential to practise it in early life, before the infantine constitution could be known; and it thus often lighted up the dormant embers of scrofula. In 1798 the practice of variolous inoculation had been tested by the experience of half a century. In this year Jenner published his first treatise on Vaccine Inoculation, the advantages of which were at once confidently proclaimed; and in the following year seventy-three of the most eminent physicians and surgeons of the metropolis had signed a document, purporting “that persons who have had the cow-pox are perfectly secure from the future infection of the small-pox.” The first claims of Jenner in favor of vaccination were singularly modest; but in 1802, he announced to the House of Commons—first, “that vaccination is attended with the singularly beneficial effect of rendering, through life, the person so inoculated, perfectly secure from the infection of small-pox;” and secondly, “that vaccination had already checked the progress of the small-pox, and, from its nature, must finally annihilate that dreadful disorder.” The quantity of small-pox that still prevails, and the practice of revaccination almost universal, lead to the conclusion, that these broadly urged claims in favor of vaccination have not been substantiated. Fifty years have passed since Jenner petitioned parliament; and the author proposed by the experience of this half century, to test the merits of vaccination. But first, what is understood by vaccination? Something prophylactic of small-pox; or something identical with small-pox? Cow-pox is a disease *sui generis*, and it cannot be said that he who has undergone vaccination has had small-pox in a mild form. A certain relationship exists between the two; but though variola by passing through the cow becomes cow-pox; yet cow-pox has never, in its turn, been converted into small-pox. Cow-pox and small-pox are, at all times, and in all countries, clearly and

readily distinguishable. The object of inoculation was to give the disease of small-pox, not to prevent it. The object of vaccination is to prevent, not to give, small-pox. Recurring small-pox and small-pox after vaccination, are not merely different from each other but actually opposed to each other. "If a person inoculated in childhood contracts small-pox in adult life, he suffers small-pox a second time, but a person taking small-pox after vaccination, takes the disease for the first time." The enemies of inoculation, as well as the supporters of vaccination, had severally taken their stand on recurrent or secondary small-pox. De la Condamine declared that not one person in 10,000 ever took small-pox a second time. The fate of Louis XV. was alluded to, and it was shown that the king's disease in early life (1724) was not small-pox, but a sharp yet brief attack of fever: that living in the constant dread of small-pox his distrust of inoculation was fearfully chastised by his death under a most aggravated attack of confluent small-pox. The author then noticed the extreme rarity of recurrent small-pox. The transactions of the Society extending through a period of forty-seven years, contained only one solitary case of recurrent small-pox. In many cases of so called secondary small-pox, the evidence of antecedent variola could not be relied on, as a case narrated in the *Edinburgh Medical and Surgical Journal*, October 1818, clearly established. Many of the cases which the author had inquired into, were equally undeserving of credit. To arrive at a trustworthy conclusion, the details of both attacks should be carefully given. Very few medical men have in such cases witnessed both the primary and secondary seizure, and the author emphatically expresses himself as thoroughly convinced that the recurrence of small-pox is among the most rare events in the annals of medicine. The author then contrasted the occurrence of small-pox after vaccination. The records of the Small-Pox Hospital throw much light on this subject. The following is a summary of the statistical details appended to the paper:—During the last eleven years, 4092 persons have been admitted into the hospital, having small-pox, of whom 2168 had been vaccinated, and 1924 were unvaccinated: more than one-half of those admitted had been vaccinated in early life. The majority were of adult age, a few between 9 and 15; but below the age of 9 scarcely any vaccinated person was admitted. It would thus appear that the susceptibility to the variolous miasm among vaccinated persons increases as life advances. The reverse of that happens in the unvaccinated. In 1850–51 the total number of cases of small-pox admitted was 976, of whom 162 died, being at the rate of 16 per cent. Of the 976 admitted, 41 were infants below the age of 5, all unprotected, of whom 22 died; 101 were children between 5 and 15, majority unvaccinated, of whom 25, or one-quarter died; 685 were adults from 15 to 30; 109 beyond that age. Total, 794 adults; the larger proportion of these had been vaccinated. of whom 115 died, or 14 per cent. Of the total number admitted—976,—613 professed to have been vaccinated; 569 exhibited cicatrices; of this latter section, 25 died,

being at the rate of 4 per cent. In 1851 the proportion of persons admitted after vaccination amounted to 65 per cent.: it was only 44 per cent. in 1841. The increase is attributable to the extensive diffusion of vaccination. The mortality at the Small-Pox Hospital during the last two years among the well vaccinated section has only slightly exceeded 4 per cent. The experience of half a century abundantly demonstrated that small-pox, though it has been largely controlled, will always abide among us, and that the notion of extirpating it is absurd and chimerical; and while acknowledging the immense benefits which have accrued from the splendid discovery of Jenner, vaccination had failed in establishing in the mind a confident feeling of security: it must be viewed as a beneficent provision of Nature, not for the extermination, but for the mitigation of small-pox. The author proceeded to show that inoculation had been abolished by act of parliament in 1840; and that, though rigidly observed, small-pox was just as prevalent now as then; that the quantity of small-pox had not in the smallest degree been affected by the prohibitory clauses of that act; that while this act prohibited inoculation, it did not render vaccination compulsory. Numbers, therefore, remain as a pabulum whereon small-pox might prey. If the legislature could not or would not enforce vaccination, the restriction on inoculation should be removed. With proper precautions, inoculation might be safely adopted. Practised by other than authorized medical practitioners, it would of course be punishable as a misdemeanor by fine and imprisonment. With such restrictions it might be practised with perfect security. By far the larger proportion of mankind would continue to adopt the mild and safe process of vaccination; while others would prefer that measure which, occasioning a greater amount of immediate, abolished all prospective anxiety. Educated as the present race of medical practitioners were, and acting, as they would act, under the supervision of a discerning press, both public and professional, they would exercise their judgment to the entire satisfaction, and ultimately to the great and permanent benefit of the country.

On the Treatment of Erysipelas by Collodion and Castor Oil. By
M. GUERSANT.

M. Guersant has recently employed with advantage, in a severe case of erysipelas, an application to the skin, consisting of collodion in combination with castor oil. The formula was—collodion, 30 parts; castor oil, 2 parts, mix. This varnish was applied once on each of three successive days to the parts attacked by the exanthema, and caused the cessation of the burning pain, and the disappearance of the dark redness of the surface; the general symptoms seemed, at the same time, to be alleviated by some favorable influence, and the boy who was the subject of experiment became convalescent much sooner than had been expected.

It is to M. Robert Latour that the idea of mixing the collodion with castor oil is due; but his formula is not the same as that em-

ployed by Mr. Guersant. To avoid the inconvenience of the splitting and scaling off of the collodion, and to prevent its exercising upon the inflamed parts a degree of pressure which some persons would find to be intolerable, M. Latour has proposed to add to the ordinary collodion a fifteenth part by weight of turpentine deprived of its volatile principle by evaporation, and five or six drops of castor oil to every thirty grammes (463 grs). We have not seen this kind of collodion used; but as for that of M. Guersant, we are informed by himself that it forms a very soft covering, far superior in point of elasticity to ordinary collodion. It is, besides, more easily detached, and a simple poultice suffices to remove it in pieces, without causing the slightest pain to the patient. The castor oil is preferable to other oils, being more unctuous, and having less of drying quality.—*Journal de Médecine et de Chirurgie Pratiques*, February 1852, pp.

On the Curative Treatment of Aneurism of the Aorta. By O'B. BELLINGHAM, M. D.

At the meeting of the Surgical Society of Ireland, held on the 24th January, Dr. Bellingham read a most important paper on this subject, and illustrated his observations by cases. The following are the conclusions which the author deduced:—

- 1st. That aneurism of the aorta is not necessarily an incurable disease.
- 2d. That it appears to be more amenable to curative treatment than is ordinarily supposed.
- 3d. That treatment ought always to be specially directed to this object.
- 4th. That when a spontaneous cure occurs, it is always by the gradual deposition of the fibrine of the blood in layers within the aneurismal sac, until it is filled up.
- 5th. That if we hope to succeed in effecting a cure, it must be by imitating the mode by which nature brings this about.
- 6th. That, in order to favor the gradual deposition of fibrine, we should aim at diminishing the mass of blood, and lessening the strength and rapidity of the current through the aneurismal sac.
- 7th. That this can only be indirectly accomplished by acting on the general circulation.
- 8th. That neither bleeding, purgatives, diuretics, digitalis, nor the various other remedies which have been employed in this disease, can be depended upon for producing these effects.
- 9th. That an extremely restricted diet, particularly in fluids, continued for a certain time, appears to have the effect of rendering the pulse small, compressible, and slow, and, at the same time, of diminishing the mass of blood.
- 10th. That the cases related afford evidence that these results may be brought about by treatment conducted on the foregoing plan.
- 11th. That this method of treatment, to prove effectual, must be steadily and perseveringly carried out, and must be continued until a decided impression is made upon the disease.

12th. That it is adapted, not only to aneurism, of the thoracic and abdominal aorta, but to aneurism in any of the immediate branches of these vessels; and that if employed as a preliminary to compression, pain will be diminished, and the duration of the treatment considerably abridged.—*Dublin Medical Press.*

On Quinidine. By Mr. ROBERT HOWARD.

This alkaloid, which gained a prize in the great exhibition, has scarcely yet attracted much attention. Some of the cheaper barks now largely imported from New Grenada contain so much of it that it is, perhaps, as well that it should be more studied. The *Cinchona cordifolia*, from that part of the continent, is particularly rich in it. It is, however, contained in larger or smaller quantities in the Bolivian and Peruvian barks—the *Cinchona*, *Calisaya*, *Boliviana*, *rufinervis*, and especially *ovata*.

The sulphate of quinidine is so like the sulphate of quinine, that the eye or the taste can with difficulty distinguish them. It forms the same light fibrous crystallization, and occupies as large a bulk. It corresponds in appearance with the description given by Winckler, of "chinidine." He notices that it has "a remarkably white color and a peculiar faint lustre." Its most striking characteristic is its extreme solubility. Pure sulphate of quinine requires nearly thirty times its weight of boiling water for solution, whilst the sulphate of quinidine dissolves in four parts. On the other hand, the pure alkaloid crystallizes readily out of proof spirit and out of ether, whilst quinine does not crystallize out of either. A very good test for the presence of cinchonine in sulphate of quinine is also capable of being applied to detect the presence of quinine. On this point I would refer for very interesting details to a paper by Mr. Guibourt, in the *Journal de Pharmacie* for January in this year.

In your journal of April, 1843, I gave a test for sulphate of quinine, to which I would again advert, because subsequent experience has proved it to be a tolerably easy, and at the same time exact means of ascertaining its purity. Put 100 grains in a Florence flask with five ounces of distilled water, heat this to brisk ebullition; the sulphate of quinine ought not to be entirely dissolved; add two ounces more water, and again heat it to ebullition; ought to make a perfectly clear solution. If this be allowed to cool for six hours, and the crystals carefully dried in the open air on blotting-paper, they will be found to weigh about ninety grains, the mother-liquor may be evaporated and tested with ether, when any cinchonine or quinine will be easily detected. On examining sulphate of quinine of commerce from several leading manufacturers, I have found all of them give, within a grain or two, the same result, and in each, indications of quinine, though to an unimportant extent.

The above quantity of water (seven ounces) readily dissolves 800 grains of sulphate of quinine: and if one hundred grains of this salt are dissolved in seven ounces of water, the crystals dried as above weigh only fifty-four grains, thus leaving forty-six grains in solution.

instead of about ten grains. The medicinal effects of B, quinine deserve investigation, the chemical constitution and the taste appear to indicate a great similarity if not identity.—*Phar. Jour.*

Cure of Ascites and Hydrarthrosis by Ioduretted Injections. By M. COSTES. (Translated from *Journal de Médecine et de Chirurgie Pratiques.*) July, 1851.

M. Costes, Physician of the Hospital St. André at Bordeaux, has published, in the *Journal de Médecine* of that city, two cases of uncomplicated ascites, treated by injections containing iodine.

The most interesting of these observations, is the case of a rope-maker, fifty years of age, who, after repeated attacks of intermittent fever, observed that his belly became enlarged. In fact, on the 2d September, 1850, M. Costes examined him, and found signs of a considerable effusion into the abdominal cavity. Paracentesis was several times performed, and each time the most minute examination proved that there was no appreciable organic lesion of any internal organ. On the 16th September, after withdrawing, by a puncture made in the point of election, 7,750 grammes (about 250 oz. Troy) of fluid, M. Costes proceeded to inject into the peritoneal cavity the following mixture:—Distilled water, 100 grammes (1,550 grs.); tincture of iodine, 20 grammes (310 grs.); hydriodate of potass, 2 grammes (30.5 grs.). The injected fluid was suffered to remain for about two minutes, and was then withdrawn through the canula. Immediately after the injection, the patient complained of acute pain, especially towards the left iliac fossa. This pain soon subsided, and was then renewed with greater intensity; at the same time, there were rigors, nausea, thirst, and dyspnœa; the belly became tense and tender, the skin bedewed with a cold perspiration, &c. A vessel of warm water was applied to the feet, an opiate cataplasm to the abdomen, and in the evening, 5 centigrammes ($\frac{1}{77}$ of a grain) of extract of opium were prescribed. On the 17th, twenty-four hours after the injection, there was notable amelioration; the patient had had some sleep; the pain of the belly, though still present, was no longer acute; the fever had abated. On the 25th, the patient's state was most satisfactory. Œdema of the legs was observed, and treated by proper bandaging. On the 1st October, the œdema had diminished, the belly resumed its normal size, and palpation no longer detected the presence of fluid. On the 27th October, the patient left the hospital, and on his return in May (?) 1851, it was found that his health had continued good.

In the second case, that of a woman, the effusion re-accumulated after the operation. The injection was not repeated; and as the subsequent treatment consisted of the repeated use of 30 centigrammes (4.6 grains) of gamboge, and of lemonade, containing 8 grammes (3ijss.) to the litre (1.76 imperial pint), the cure which followed cannot be cited as due to the injection. M. Costes adds, that he has recently performed the operation in a third case in his clinique, and

has obtained a result so successful as to remove all doubts of the value of the procedure.

Remarks by the Editor of the Journal de Médecine.—Clinical observations so important as these of M. Costes cannot be passed over in silence. We have, considered it proper to mention them, in order that they may be associated with those which MM. Dieulafoy, Leriche, Greffon, and Rul-Ogez have already communicated to the medical world. It is thus that science is promoted, and possibly the day is not far distant when we may assent to the proposition of the illustrious physician of Bordeaux,—that to cure idiopathic ascites recourse may simply be had to the ioduretted injections. One incontestable fact is, that the introduction of an irritating fluid into serous cavities is not so dangerous as was formerly believed. In 1829, M. Jobert de Lamballe had an opportunity of convincing himself of this, when he injected into the peritoneum of a woman suffering from simple ascites a large syringe of water, containing *eight ounces of alcohol*. It is true that this surgeon did not dare, in the first instance, to empty the cavity, and allow the injection to act upon its naked walls, but contented himself with adding the injection to the effused fluid. This operation, assisted by the manipulation of "ballotment," immediately produced a sensation of heat, and even of acute pain, in the part where the column of alcoholized fluid impinged most directly. The curious observation was also made, that the patient continued all day in a thorough state of intoxication. No trace of inflammation ensued, and the patient, of whom, unhappily, nothing is known since she left the hospital, was cured at the period when she was dismissed. Since that period, M. Jobert has been in the habit of injecting diluted alcohol and tincture of iodine into various joints, without ever inducing untoward symptoms. The introduction of the irritating fluid, does not seem to be *inert*; it sometimes causes excessive pain and an assemblage of local symptoms which would terrify one who did not know, that all this disturbance rapidly passes off (*s'humanise*) without recourse being had to the ordinary antiphlogistics apparently indicated. We lately saw an example of this, in a case of hydrarthrosis of the knee, treated in the Hotel Dieu by the surgeon just named—a most interesting case, which cannot be more appropriately introduced than in this place.

About the end of April, M. Jobert de Lamballe received under his care, in the Hotel Dieu, a jeweller, forty-six years of age, with an old swelling of the left knee. Fluctuation, and the peculiar crepitation termed "*bruit de chainon*," described by Dupuytren in his account of certain cysts of the fore-arm, and attributed to the presence of albuminous corpuscles, were distinctly perceptible. The patient could not walk without pain. On the 21st May, M. Jobert, having previously, without much benefit, employed discutient compresses, punctured the joint on the inner side with a trocar, and injected through the canula equal parts of distilled water and tincture of iodine. He left a portion of the fluid in the joint, and withdrew the rest; a piece of diachylon was applied to the orifice to prevent the

access of air, the patient was then laid in the horizontal posture, and absolute rest of the limb maintained. At the moment of the injection there was a moderate amount of pain, but next day the joint was so swollen and red that fears were entertained of the occurrence of gangrene. This was the result of excessive exhalation of albuminous fluid. Now, as nature is very powerful in rapidly producing absorption of such effusions, the local symptoms were soon observed to become less intense, no constitutional disturbance supervened, and by the 23d, the patient had slept and felt himself better. The tumefaction and redness were lessened. On the 30th May pain had ceased, and the knee had recovered its normal volume, except at the inner and upper part, where albuminous masses were still perceptible. These, M. Jobert is at present attempting to remove by the continuous application of compresses steeped in lime-water and solution of sal-ammoniac. At present, on the 28th June, the man is in the most satisfactory state; he walks without pain, and will be cured like another patient, a lady, on whom M. Jobert recently performed the same operation for the same complaint. She had suffered for six months, and the treatment by injection was proposed. She at first refused to submit, but the operation was at last performed in presence of MM. Velpeau and Delafolie. The pain was excessive, and the patient was thrown, by inhalation of chloroform, into an alarming nervous condition. As in the preceding case, there followed enormous distension of the knee, and things then fell into their normal condition; on the fifteenth day the patient could raise the leg, which she could not formerly do without giving vent to cries.

What is most singular, the cure in these cases is obtained without compromising the mobility of the articulations.

In M. Costes' observations, we are informed that the abdominal viscera seemed to retain their natural mobility. M. Jobert, too, has found in all the cases of hydrarthrosis on which he has operated by injection of irritating substances, that perfect freedom of motion was preserved. Facts, then, would seem to show, that the cure by injection is obtained by simply modifying the vitality of the serous membranes, and not, as has been asserted of the *tunica vaginalis*, in hydrocele, by the agglutination of the contiguous surfaces of the serous membrane by adhesions.—*Month. Jour. Med. Sci.*

MIDWIFERY AND DISEASES OF FEMALES.

On the Diagnosis and Treatment of Ovarian Disease, with the History of one Hundred and fifty-six Cases. By ROBERT LEE, M. D., F. R. S., (*Royal Medical and Chirurgical Society*)

The author commences with a description of the human ovarium, its coats and stroma, and the structure of the Graafian vesicles; and he then notices the condition of the organ before puberty, and the changes which take place at that period, after impregnation, and when the catamenia have ceased. Adhesions of the ovario-Fallopian tubes

and uterus are very common. In the unimpregnated state this arises most commonly from inflammation of the peritoneum only; but in puerperal women all the component structures of the ovaries suffer. Thickenings of their coats sometimes are found when there has been apparently no inflammation. Inflammation of the parenchymatous structure terminating in suppuration, in the unimpregnated state, is rare; and the author believes that in those cases where abscesses of the ovaria have burst into the bladder or rectum, they have been the results of scrofulous disease, and not of simple inflammation. Fibrous tumors are sometimes met with in the stroma of the ovaries, which have the same structure as those of the uterus: malignant or cancerous disease also affects the stroma. Both fibrous tumors and malignant diseases are most frequently met with in combination with diseases of the Graafian vesicles, though they may occur without this complication. The greater number of the complex, compound, or multilocular cysts met with in connection with the ovaria originate in the Graafian vesicles; but it is probable that cystic diseases of a different nature are sometimes set up in the walls of enlarged Graafian vesicles. The author refers to the dissection of an ovarian cyst, published in the last volume of the *Transactions*, to show that compound cysts are formed independent of each other, and that the smaller cysts do not grow from the inner surface of the larger ones, but are formed in the stroma of the ovaries external to each other. After noticing the varieties observed in the course of ovarian tumors, the author refers to the table of 166 cases of these diseases. In 41, or about a quarter of the whole, sterility existed, showing a previous unhealthy state of the uterine organs. In 92 the disease occurred between twenty four and forty-four years of age, while the uterine system was in the most active state. In several cases tapping was performed eight or more times, and in no instance was followed by an immediately fatal result; where death took place after tapping, it was attributable rather to the advanced state of the disease than to the operation. The difficulties of diagnosis in some cases of ovarian tumors are pointed out, as in cases of death of a foetus. The general symptoms may be the same; and it is only by a careful examination of the lower segment of the uterus internally that in any case it can be positively determined whether the symptoms depend on pregnancy or on some ovarian disease. The soft and thick state of the lips of the os uteri, the shortening of the cervix, the expansion of the body, and the floating of the foetus, would allow of a positive opinion being formed. "If the uterus be unimpregnated, drawn up, and turned to one side, or pressed forward, backward, or downward, and the cavity of the pelvis be filled more or less with a mass which can be felt occupying the brim—and more or less of the abdominal cavity—hard, or soft, and irregular in some portions, with fluctuation in others, we may conclude that the disease is ovarian." For the diagnosis of ascites as distinguished from ovarian dropsy, the author refers to the description given by Dr. Watson, and adds to this the fact that in ascites the fluctuation is usually more distinct,

and that there is an absence of that irregular hardness usually felt in the abdomen when enlarged with ovarian cysts, as also of any unhealthy feeling in the contents of the pelvis. In the latter stages of ovarian disease these diagnostic signs become more obscure. The diagnosis of fibrous tumors of the uterus and ovarian cysts and tumors can, according to the author, be drawn with sufficient accuracy without the use of the uterine sound; and he instances cases in which the employment of this instrument has been productive of evil. Where fibrous tumors are imbedded in the walls of the body of the uterus, the whole organ is felt enlarged and heavy, and the cervix is sometimes shortened as in pregnancy. Attacks of menorrhagia occur, the functions of the bladder and rectum are disturbed, and there are usually pains, with signs of interrupted circulation of blood, in the lower extremities. When cavities filled with fluid exist in the deeper parts of fibrous tumors, the diagnosis is sometimes rendered extremely difficult, if not impossible. With regard to treatment, the author does not put much confidence in the usual remedies. Opening and injecting the cysts has generally been effected by leaving a small canula or bougie in the opening after tapping; and a case is related, communicated by Mr. Phillips, in which the plan of drawing off only a small quantity of the fluid, and fixing a small elastic gum catheter in the wound for five days, was followed by a gradual diminution of the tumor. In a few cases the long-continued use of iodine and liquor potassa has produced a diminution of the tumor; but in the majority of instances these remedies have done no good or have done harm. The author prefers treating the disease by the use of saline purgatives and diuretics, light diet, and the avoidance of much exertion, and of every cause likely to irritate the morbid structures. In conclusion, the author refers to an analysis of 162 cases of ovariectomy, published in the last volume of the *Transactions*. In 60 there was either no ovarian tumor, or the removal was impracticable; 19 of these proved fatal. Of the remaining 102, in which the operation was completed, 42 terminated fatally, and the present condition of the 60 patients who recovered is very imperfectly known.—*Med. Gaz.*

On Healthy and Morbid Menstruation. By H. BENNET, M. D.

Dr. Bennet treats of the physiology of menstruation; of dysmenorrhœa; of menorrhagia; and of amenorrhœa.

Menstruation, Dr. Bennet remarks, is best elucidated in the elaborate work of Pouchet, published at Paris in 1847, entitled, *Théorie Positive de l'Ovulation Spontanée*, in which, as he states, is contained a full and complete account of the author's own important researches, as well as those of nearly all the ancient and modern writers on the subject. To M. Pouchet belongs the credit of having been one of the first to broach the doctrine of spontaneous ovulation as a law in the females of all mammiferæ, and also of having established this law in the most irrefutable manner by experiments, and by analysis of all that had been done by his fellow-laborers in this field of observation.

Dr. Bennet states, that clinical experience has satisfied him, that morbid menstruation is "nearly always, when strongly marked and *inveterate*, the result of positive disease of some portion of the uterine system, and, generally speaking, of the uterus. That such is the case, must be admitted as probable, when we consider that the function, although presided over by the ovaries, is accomplished by the uterus, which contains an extensive mucous surface."

Dysmenorrhœa is considered as, 1st, *Constitutional*; 2d, *Accidental*; and 3d, *Physical*. Regarding the latter, he is somewhat at issue with Dr. Simpson.

Treatment of course varies according to the cause of the dysmenorrhœa. Subjoined is an abridgment of what Dr. Bennet says on this subject.

Constitutional dysmenorrhœa may be palliated, but can seldom be removed by medical treatment. For young females who suffer from it, the discipline of public schools is nearly always too severe, and often lays the foundation for much future physical and mental misery. That this must be the case, will be easily understood, when we reflect that the domestic treatment of this form of dysmenorrhœa consists principally in *rest* and *warmth*. Females who suffer habitually from dysmenorrhœa, whatever their age, should remain quietly at home, taking care to preserve themselves from atmospheric vicissitudes during the first day or two of menstruation, which is the period during which the pain is mostly felt. A warm hip-bath will often be found useful. If the pains are very decided, it is best to confine the sufferer to bed, and to apply warm linseed poultices to the lower abdominal regions.

In severe dysmenorrhœa, connected with uterine disease, the only *efficacious* treatment is that of the cause of the disease which occasions the dysmenorrhœa. As time is required, however, we are often called upon, even in these cases, to treat the dysmenorrhœa as a symptom. From fifteen to thirty minims of laudanum, mixed with a little warm water, injected into the rectum, will generally as much soothe the uterine pain, as would double the quantity taken by the mouth. Dr. Bennet has also found chloroform of great value in these cases. It may be inhaled or administered by the mouth in doses of from twenty to forty minims, mixed with mucilage, the yolk of an egg, or with camphor, which favors its suspension in water. He has given it by injection, but with less success, as it appears, generally speaking, to irritate the rectal mucous membrane, and is consequently not retained. When it is retained, the sedative effect is nearly always effectually produced. Although chloroform may thus often be resorted to with great benefit in dysmenorrhœa, he does not find that as much reliance can be placed in it as in opiates. Antispasmodics and narcotics, as palliatives, may be administered with benefit in dysmenorrhœa.

Dysmenorrhœa being so frequently caused by inflammatory disease, explains the success which often attends blood-letting, both general and local, and which has induced so many authors to recom-

ment it, although unaware of the pathological state which it relieves. General blood-letting acts by revulsion: whilst local blood-letting directly relieves the congested and embarrassed abdominal circulation. He seldom, if ever, resorts to general bleeding in dysmenorrhœa, because the relief which it gives is obtained at too great a sacrifice of the strength of the patient, and cannot, moreover, be depended upon. A few leeches applied to the groin, or better still, to the neck of the uterus, when possible, if the discharge is scanty or temporarily arrested, is much more likely to mitigate the pain, and with less loss to the economy. Purgatives act in the same way as leeches, by depleting the abdominal circulation.

If dysmenorrhœa resist all general treatment, it is probably the result of local disease. In unmarried females, nothing can warrant manual or surgical investigation and treatment, but months, or even years, of unsuccessful treatment, and the conviction that unless they be resorted to, the case must be abandoned as hopeless. A consultation should be held when the patient is unmarried, to decide whether examination of the uterine organs be necessary.

Menorrhagia is considered with reference to its causes and treatment.

Plugging the os uteri is advised in certain cases, and the method of doing it is explained. It seems to be less painful, less clumsy, and more efficient than plugging the vagina.

In cases in which hæmorrhage persists after the removal of local disease, owing to enlargement of the uterus, to the presence of small unrecognized polypus or uterine tumor in the cavity of the uterus and its neck, or from the mere hæmorrhagic habit, Dr. Bennet "has of late resorted, with encouraging success, to plugging the *os uteri* itself, instead of the vagina." He has, in several instances, brought the cervix uteri into view, and passed inside the *os* two or three small pieces of cotton, tied to a piece of thread, wedged in firmly, covering the whole cervix with two or three larger pieces, left in close contact with it on the withdrawal of the instrument. In the ordinary operation of plugging the vagina, that canal has to be distended by a large mass of sponge or linen, soaked with clotted blood, which often interferes with the functions of the bladder and rectum, is always a source of great discomfort to the patient, and is not always efficient.

Owing to the natural contractility of the cervical canal, and the pressure of fluids from behind, if the cotton is not well pushed in, it is soon forced out. The plug may be left without renewal for twenty-four or even thirty-six hours; but in the latter case, it is generally expelled spontaneously. A small piece of sponge may be used, and is more likely to remain *in situ*, owing to its expansion; but as it must necessarily be very small, it is more likely to be permeated by the blood. If sponge is used, great care should be taken to extract it; to facilitate which a small piece of thread should always be tied to it, as the *os uteri* might not be able to expel it alone, owing to great expansion of the sponge which takes place.

In the same class of cases, Dr. Bennet has occasionally found that

a few leeches, applied after menstruation to the cervix uteri, arrested the hæmorrhage.—*London Journal of Medicine.*

Practical Observations and Statistics of Forceps Operations. By Dr. ARNETH. (*Clinical Midwifery.*)

In the 6,608 births, the forceps were resorted to 45 times, or once in 146 births. Boivin employed them once in 214, Lachapelle, during 1803–11, once in 168, and during 1812–20, once in 288. Collins employed the forceps and lever (which last M. Arneth makes no mention of employing) once in 574 cases, and M^cClintock and Hardy resorted to the forceps once in 279, and to the lever once in 378 births—viz., to either forceps or lever in 42 out of 6,702 births, or once in 159½. Boër used the forceps once in 251 births, Klein once in 48, Bartsch once in 72. The two latter practitioners are the directors of the Vienna Lying-in establishments: and it will be observed, that Dr. Arneth's own forceps operations are proportionably far less than theirs, viz., 1 in 146. Adding together the cases recorded by all the above-named observers, we find, that in 168,179 births, the forceps were employed 1,289 times, or once in 130 births.

In 28 of the author's 45 cases, the forceps were applied simply for deficient pains, in 5 for the same cause united with slight pelvic narrowness, 3 times for moderately contracted pelvis, 5 times for eclampsia, once for eclampsia and hæmorrhage, once for a prolapse of the funis and hand, once for the prolapse of the arm with the head, and once for the delivery of the head in a breech-presentation. Of the children, 31 were born living (7 dying within a few days), and 14 dead.

In *deficient pains*, when the necessity of having recourse to the forceps is feared, endeavors are made to excite uterine action by the application of vapor to the parts. The patient is seated comfortably in an arm-chair having an aperture in the seat, under which a vessel containing hot water is placed, her feet being supported by a stool placed within the vessel. The whole is surrounded by a cloth, so as to prevent the escape of the vapor. She remains so seated until the pains augment in severity, or until she feels fatigued; and if, on her return to bed, the pains again diminish, the vapor bath is not unfrequently repeated. Although this bath undoubtedly induces a softened and yielding condition of the parts, Dr. Arneth is disposed to attribute its quickening power upon the pains as much to the assumption of the erect posture, as to the influence of the vapor. When the os uteri is very unyielding, cloths dipped in warm water are kept applied to the external parts, by the hour together, if necessary; and if this has no effect, the patient is placed in a tepid hip-bath, which often proves of the highest utility. If the dilatation of the os has been thus obtained, and yet the pains do not follow, the vapor-bath just alluded to is employed. Dilatation of the tense os uteri by the hand or by instruments is never practised. The *secale cornutum*, as a means of exciting pains, is very rarely employed; and it seems to us that Dr. Arneth by no means appreciates the utility of this valuable drug in the various emergencies under which it is employed here. This may arise from his giving only 5-grain doses every five

minutes, until half a drachm has been taken. If he gave the half drachm altogether, and repeated this dose in half-an-hour, if requisite, we believe his opinion as to the power of the remedy would undergo some change. It is by no means our wish, however, to urge the more frequent employment of the ergot among ourselves; as we feel convinced that it has been, and is, from ignorance and impatience, far too frequently resorted to, both in England and France; and that many examples of infantile asphyxia are due to its injudicious administration. While, therefore, we maintain its great power for good or evil, accordingly as its exhibition is prudently resolved upon or not, we are glad to put prominently forward some of the above-named substitutes in use among the more cautious and more leisurely practitioners of Vienna.

Very different is the result of the application of the forceps for mere deficiency of pain, and for even only a moderate degree of *contraction of the pelvis*. Of the 8 mothers in whom the latter existed, only 2 could be dismissed at the end of the ninth day, like the other women; 1 was attacked by cholera, 1 suffered from urinary fistula, 2 suffered from puerperal fever, but recovered, and 2 died. On the other hand, of the 28 women in whom the forceps was only resorted to on account of defective pain, 23 left the establishment at the end of the ninth day, 3 fell ill, but recovered, and 2 died.

Dr. Arneth never resorts to the "long-forceps," the instrument he employs measuring 15 inches. He especially cautions against the movement of the instrument towards the sides of the pelvis during traction, for although this may sometimes hasten the progress of delivery, it does so at the expense of the soft parts of the mother. He cannot sufficiently express his astonishment at finding, that all the writers whom he has consulted, direct a pendulum or rotatory traction to be employed; and insists that this should be made direct, simultaneously with the pain, when possible, and with uninterrupted and increasing force, so long as the operator's strength allows. In this way much more is done than by occasional violent pulls, and the instrument is held more securely in the operator's power. The author has met with no instance of *separation or loosening of the pelvic symphyses*, stated by Scanzoni as a frequent consequence of the employment of the forceps in a narrow pelvis. One interesting case of this kind following a forceps operation, he relates; but in this the forceps were resorted to (under the same circumstances that most practitioners in this country would give ergot) for a deficiency of pain, notwithstanding complete dilatation. They were applied with great ease, and four or five tractions completed delivery. Soon after the delivery, the patient complained of pain in the left inguinal region, and afterwards along the whole course of the ischiatic nerve. There was no tenderness of the abdomen, except over the symphysis pubis; but excessive pain was complained of on moving the hip-joint, and deep-seated fluctuation was perceptible external to and above the ischiatic tuberosity. The last week prior to her death, she complained of excessive suffering near the left acromion. Delivered on the 26th of October, she died on the 6th of November. Much

yellow purulent exudation was found between the bladder and symphysis, and the periosteum of the horizontal ramus of the pubis was loosened. The fibro-cartilage of the symphysis was in part destroyed, in part infiltrated with the above exudation. The symphysis was so separated that nearly an inch intervened between the ends of the bones, which were also roughened; within the left shoulder and hip-joints, greenish-yellow pus was found. The uterus was lined with a darkish exudation, a few drops of pus being observed where the placenta had been attached. Several small darkish-colored, fissure-like wounds of the cervix uteri, and one in the vagina, were observed.—*Brit. and For. Med. Chir. Rev.*

A New Mode of Treatment for Prolapsus Uteri. By M. DESGRANGES.

M. Desgranges, surgeon to the Lyons Hospital, has laid before the Academy of Medicine of Paris a new mode of remedying the uterine displacement. It consists in pinching up the mucous membrane of the vagina, after reduction, with little forceps, or "serres fines" of Vidal. The forceps produce ulceration, and fall off from the fifth to the tenth day; and M. Desgranges repeats this operation eight or ten times, taking care always to leave as many of the forceps as possible. At the commencement, he introduces as many as nine; later, from six to four; and at last, towards the end, only one of the little instruments. The treatment lasts in general two months and a half, or three months.

It will be seen that this method rests on the fact that the narrowing of the passage may prevent any further descent of the organ, the loss of substance and cicatrization being instrumental in the result.

For assisting the memory of our readers, we shall just transcribe the various analogous operations which have been proposed, as given in a very good article of the *Bulletin de Therapeutique* :—

1. Excision of a few folds of the vaginal orifice, as practised by Dieffenbach, in imitation of Dupuytren's mode of excising some folds of the margins of the anus in prolapsus of the rectum.

2. Excision of a broad longitudinal flap of the mucous membrane of the vagina, either elliptical (Dr. Marshall Hall) or square (Dr. Ireland), and the immediate apposition of the lips of the wound by suture.

3. Cauterization of the mucous membrane, so as to harden the tissues by suppuration, and obtain union between the walls of the vagina and the surrounding organs (Laugier).

4. Excision of a semicircle of the vaginal orifice, and immediate apposition by suture, in acting either on the anterior or posterior circumference.

5. Episioraphy, practised by Fricke, of Hamburg. This consists in paring the inner surfaces of the labia majora, and bringing them together by suture.

6. Complete obliteration of the vagina, proposed by M. Romain Gerardin. This operation has never been practised upon the living subject, and could hardly be thought of before the cessation of the catamenia.—*Lancet.*

PART FOURTH.

AMERICAN MEDICAL RETROSPECT.

COMMUNICATIONS.

Remarks on Amputation of the Lower Jaw. By J. M. CARNOCHAN, M. D., Professor of the Principles and Operations of Surgery in the New-York Medical College; Chief Surgeon to the State Emigrants' Hospital; Ophthalmic Surgeon to the same Institution, etc.

SINCE the publication of my case of amputation of the entire lower jaw, in the January number of the Journal, I have been led to investigations which justify me in presenting it as the first successful operation of the kind reported in the annals of surgery. The operation attributed to Walther of Bonn cannot be admitted as authentic, not because it presented formidable surgical difficulties, although such must always exist, but because no such operation is recorded either by himself or by an eye-witness. I am not alone in this opinion. Velpeau, the great compiler of surgical literature, alludes to it in a brief note [*Nouveaux Elemens de Médecine Opératoire*. Paris. 1839. vol. ii, p. 610], as a mere rumor unsustained by proof. Nelaton [*Elemens de Pathologie Chirurgicale*. Paris. 1849. p. 749] also alludes to the operation as a mere rumor. The most eminent German authority, Dieffenbach, in his *Operative Surgery* [*Die Operative Chirurgie*. Leipzig. 1848. Zweiter Band. p. 56], under the caption of "Exarticulation of the Entire Lower Jaw," describes a *cadaveric* operative procedure, but makes no allusion to Walther in this relation. Chelius, another eminent German professor [*System of Surgery*. By J. M. CHELIUS. Translated from the German, with notes, by John F. South. Vol. iii. Philadelphia. 1847. p. 745], under the caption of "Excision of the Lower Jaw," simply says that "even the *total extirpation of the lower jaw* may be indicated by various kinds of disease," but does not proceed to mention Walther, or any other surgeon, as ever having performed that operation. From this silence it may be inferred that he assumes that the operation was thitherto wholly unknown in the records of surgery. The

latest French authority, M. Vidal (de Cassis), [*Traité de Pathologie Externe de Médecine Opératoire*. Paris. 1851. Vol. iii. p. 509], holds this language in regard to Walther's operation: "success (in an amputation of the entire lower jaw) is attributed to Walther of Bonn;" and further on, "the success spoken of is unique; it has not even an irreproachable authenticity."

There is an operation transcribed from the Italian into the *Gazette Medicale* for Nov., 1844, p. 758, under the head of "Extirpation of the Entire Lower Jaw by sub-cutaneous incision, by M. Signoroni," but it is very far from coming within the category of successful amputations or resections. The record is in many respects vague and unsatisfactory. No details are given of the disease requiring the operation. The operation itself, according to the author, was not an amputation properly so called, but an extraction of the bones, by means of forceps, and the use of the bone scissors. There were no incisions made, except of the buccal mucous membrane, where it is attached to the surfaces of the jaw. Moreover, the extraction was not effected by a single operation, but required a second, after the lapse of eight days. And still farther, the patient was not cured; for according to M. Signoroni, "at the end of nine months he succumbed to a reproduction of the disease."

Professor Syme [*Contributions to the Pathology and Practice of Surgery*, London, 1848, p. 21], in the article on "Excision of the Lower Jaw," states that he disarticulated the jaw; but no details are given of the case or of the operation. Moreover, the patient referred to is stated by him to have died on the following day.

Mr. Perry's case, related in the *Medico-chirurgical Transactions*, [London, second series, vol. iii., 1838, p. 290.] like that of M. Signoroni, was an extraction of the bone, piecemeal, at intervals, extending over a period of three weeks.

It would be easy to multiply negative facts of this kind; that is to say, to investigate cases where the operation of amputation of the entire lower jaw was not performed; but those I have adduced and commented upon will suffice for my purpose. In reality, my claim to priority, which I now feel entitled to make, is based upon the positive fact that there exists no record, antecedent to my own, of an operative procedure of amputation of the entire lower jaw, performed with success upon the living body.

In regard to that operation, it was performed upon a principle analogous to that which would govern the amputation, in contiguity, of any other member similarly affected by disease. For example, the removal of the upper extremity at the scapulo-humeral articulation, would be preferred to an operation with section of the bone, where the disease was likely to return, if any portion of the shaft or head of the humerus were allowed to remain. As mentioned in the published report of my case, the body, only, of the bone was in a state of necrosis. To be more definite, the necrosis extended to the anterior edge of the masseter muscle of the left side, and some lines farther, upon the right side. But, although the necrosis did not extend be-

yond the body of the bone, the condition of the rami, on both sides, was such as to demand their removal. If they had not been removed, they would have remained liable to caries or necrosis, in the progression of the disease; the maxillary muscles having become rigidly and permanently retracted, from the irritation of the disease, would have drawn, by the action of the pterygoid muscles, the ramus of each side upon the bag of the pharynx, and so impeded deglutition; while the immovable position of the rami, occasioned by the permanent contraction of the temporal muscles, attached to the coronoid processes, would, upon the deposition of new bone, have led to increased irritation and danger. Lastly, the dilapidated condition of the patient, together with his inability to endure much longer the torture under which he was laboring, from the irritation propagated to the ramification of the third branch of the fifth pair of nerves, lodged in the dental canals, furnished an additional reason for total disarticulation.

In conclusion, I may remark that the patient now, ten months after the operation, is pursuing his vocation as a dairyman, in a state of perfect health. The morbid specimen is deposited in the museum of the New-York Medical College.

Cases in Surgery. Trephining the Cranium and Ligature of the Carotid in Epilepsy. By W. PARKER, M. D., Prof. of Surgery in the College of Physicians and Surgeons, New-York. Reported by STEPHEN SMITH, M. D.

CASE I.—David Bothwell, aged 32, native of Ireland, of temperate habits, sanguine temperament, by occupation a painter, received a blow on the left parietal bone from a marline spike, while on his passage to this country eight years since. From the immediate effects of the blow he was rendered insensible for several hours, during which he had an epileptic attack. Upon recovering his senses his mouth was drawn to the right side. He had nearly lost the power of speech, and an occasional numbness was experienced in the limbs of the right side. These epileptic seizures were repeated after arriving in this country, but during two or three months which he soon after spent at work on a farm, they were nearly suspended, and he recovered his speech, and considered himself again restored to health. He now continued free from epileptic attacks for upwards of two years, pursuing his occupation and in the enjoyment of fair health, excepting, however, pain in his head, which was quite constant but alternating in severity. This pain was not confined to the seat of the former injury, but was located principally in the forehead. Upon the occurrence of a dangerous illness to his wife, he became much excited, and alarmed at her condition, and after unusual exertion was seized again with an epileptic fit. They now began to recur more and more frequently, finally amounting occasionally to seven in a single day. Any excitement or fatigue, and especially an attempt to read, would provoke an attack. In the course of the subsequent two years or more, all the remedies usually resorted

to in epilepsy, were in turn subjected to trial, but without any benefit whatever from their use.

It was under these circumstances that he first applied to Dr. Parker for treatment during the winter of '47 and '48. His general health was at this time favorable, he suffered from no constant symptoms, excepting the severe circumorbital pain, but his speech was affected and his mind evidently impaired. As medical remedies had been thoroughly tested and found unavailing, and in view of the fact that the disease originated in an injury to the head, at the seat of which there was a manifest depression, it was determined to trephine the cranium at this point, in the confident belief that there must be some local irritation of the brain which such an operation would remove. Dr. Parker proceeded to perform this operation on the 2d day of June, 1848, applying the crown of the trephine over the depressed portion of bone. A stellated fracture was found to have been the result of the blow received four years before, and a small spicula of bone from the inner table penetrated the dura mater. No fluids of any kind escaped, the dura mater was healthy and the wound was closed in the usual manner. On the 5th day erysipelas attacked the wound and spread over the entire scalp, threatening at one time to prove fatal. He, however, recovered, and upon the closure of the wound remained free from his former attacks upwards of three months. At the end of this period, upon the occasion of a slight exciting cause, he was again seized with fits, and continued to be harassed by them until the autumn of the same year, when, as a last resort, Dr. Parker proposed ligating the carotid of the affected side. He eagerly consented, and early in November this operation was also performed. The ligature came away in due time, and the wound healed readily; again he was relieved for a time, but not permanently. The attacks returned with increased force and frequency, he became irritable, and occasionally appeared maniacal. He was placed upon a vegetable diet, directed to take saline cathartics frequently, bathe the head often in cold water, resort to venesection occasionally, and avoid fatigue and all exciting causes.

He has followed this regimen very strictly for a year or more, with very decided advantage; the epileptic seizures now recur at much more distant intervals, and a threatened attack is often ward off by a resort to blood-letting, and the application of cold to the head. While at work at his trade several months since he fell from the ladder, causing a considerable flesh wound upon the abdomen; this suppurated freely, and was some weeks in healing; during this period he was entirely free from epilepsy. This accident, like most of the operations for the relief of this disease, such as issues, cauterizations, and except where a real cause of irritation is removed, was beneficial only while it served as a diversion from the nervous centres.

CASE II.—The following case of *Ligature of the Carotid Artery in Epilepsy*, by Dr. C. Morrogh of New-Brunswick, New Jersey, alluded to in an article on the "*Surg. Treat. of Epilepsy*" in the

last number of this Journal, has recently been communicated to the writer, and is deemed worthy of insertion in this connection.

William Williamson, of Six Mile Run, aged 24 years, has been subject to epileptic seizures for about 8 or 9 years. Patient is well formed, about six feet in height, of robust appearance, regular habits, and good intellect; not married; parents and family all healthy.

For the period above stated, patient has suffered at irregular intervals, from a dull, throbbing pain over the surface of the cranium, attended with congestion of the conjunctiva and throbbing of the temporal arteries. The headache commences at all hours, without reference to time; it lasts from fifteen minutes to as many hours, increasing in severity till it becomes almost insupportable, when the patient loses his consciousness, and the usual phenomena of epilepsy supervene. He has never received any serious injury on the head or elsewhere; has no syphilitic taint; tongue is clean and natural, digestion good; no symptoms of entozoa; no tumor or morbid growth to be discovered; no fever; pulse 72, and otherwise natural. There is no aura epileptica, though patient can generally foretell the approach of a fit, by the intensity of the headache. Since the commencement of his disease, the paroxysms have continued to increase in frequency and severity.

At the present time he experiences several attacks every day, and he describes his sufferings from headache as extreme. Of the ætiology of my patient's disease I am profoundly ignorant.

Treatment—Heretofore patient has been subjected to almost every conceivable system of treatment; he has consulted innumerable medical men both in the surrounding country and in the large cities. According to his own relation, he has been freely bled, both generally and locally. Gentle and free purging have been produced by all kinds of cathartics. He has at different times been placed under the influence of mercury and its chlorides, various forms of counter-irritants, different salts of silver, iron, copper, lead, zinc, arsenic, and iodine, antispasmodics and stimulants, digitalis, hyosciamus, strychnine, turpentine, and drugs without number, and has resorted to Indian doctors, homœopathy, hydropathy and magic.

Seeing nothing more to do for my patient, I proposed to him the expedient of ligating one of the common carotids. I told him how uncertain the remedy was, and rather exaggerated its danger, but he grasped at the proposition with avidity, and immediately took lodgings in the vicinity of my residence, so that I might the better attend to him.

The operation was performed Feb. 23d, 1849, in the usual manner, in presence of Drs. Woodhull and Skillman of this city and Dr. Gayle of Somerville. The right carotid artery was secured above the upper margin of the omohyoideus. The distress on the same side of the head was at once relieved.

March 9th, fifteen days after operation.—Ligature came away to-day. Wound doing well; patient feels much better; right side of head is free from any pain; and right conjunctiva is clear and free

from distended blood-vessels; there has remained however on left side some pain and congestion of conjunctiva; the arteries also on this side continue to beat stronger than natural, though not so much as before the operation. He has had two slight fits.

March 15th.—Wound is entirely healed. Patient much better. He leaves for home to-day.

Oct. 23d, seven months after operation.—Patient has had no attack since the separation of ligature till the other day, when he had a mild one. The distress on left side of head increases.

Dec. 25th, ten months after operation.—Patient has experienced one more paroxysm of epilepsy, which has been rather severe. Distress in head increases.

Feb., 1852, three years after operation.—Since the last date, patient has grown worse; the distress has gradually returned to right side. He is now as bad as ever; his memory fails, and the inroads of the disease on his mental faculties become more and more apparent. I have no remarks to offer on this case, but what I think will suggest themselves to your mind.

The evident hyperæmia of the head pointed to this mode of treatment as one which might afford relief.

The local disturbance in the circulation is caused, I take for granted, by a diminished flow through the capillaries, and not by any increased vis a tergo; but as I could not divine what was the cause of the capillary obstruction, or how far it was connected with the other morbid symptoms, I confess I was more influenced by hope than confidence in this remedy.

Another consideration tended to dampen my ardor, viz., by cutting off the supply of blood through the carotid, it could only affect the investing membranes of the oncephalon, the anastomosing branches at the base of the brain being quite sufficient to supply any demand which could occur in the cerebral mass itself.

PRACTICAL MEDICINE.

Microscopic Observations respecting Arterial and Capillary Circulation. By J. H. WYTHES, M. D., of Paoli, Pennsylvania.

It will be readily acknowledged by most physiologists, that the movement of the blood in the capillaries, is to a great extent independent of the action of the heart, since it may continue after the cessation of the heart's action is affected by causes originating in the capillaries themselves, and is present in the vascular area before the development of the heart. The capillary vessels, however, exhibit no obvious movement when examined by the microscope; the blood passing through them in a continuous stream. Now as the only method in which the capillaries could influence the current of blood, is by a peristaltic or pulsatory motion, and as such motion is not observable in them, it seems probable either that their influence has been overrated, or that the cause and manner of their operation is yet undiscovered.

The arteries, on the contrary, are known to possess both elastic-

ty and contractility. The former of these properties is generally considered to be of a purely physical character, serving to convert the intermittent impulses the blood receives from the heart into a continuous current. The contractility of the middle arterial coat is thought to be a vital property, similar to muscular contractility. A modification of this force is termed tonicity, an example of which is seen in the arrest of hæmorrhage by the contraction ensuing on the division of an artery.

The pulsations of the arteries, however, have been regarded as caused by the alternate contraction and dilatation of the heart, and to be equalizing and retarding, rather than propulsive, in their influence on the vital current. Yet physiologists have been inclined to attribute some propulsive influence, supplementary to the heart's action, to the arterial coats. Dr. Carpenter remarks, "If the fibrous coat of the arteries is in some degree disposed to the alternate contraction and relaxation which are so remarkable in the heart, they *may* exert a force which shall be supplementary to that of the heart's impulse, relaxing to receive the blood from it, and contracting upon their contents, with a power superior to that by which they were distended. It is difficult to say whether or not this be the case, though there would certainly appear some evidence in favor of the supposition. The loss of the heart's power over the currents of blood, in proportion to their degree of subdivision, occasioned by the increased friction to which they will be subjected, would seem to require some compensating power, in order that the perfect equality of pressure may be obtained which has been spoken of as existing in all parts of the arterial system. In no other way than this can the fibrous coat of the arteries be regarded as having any propulsive power over their contents, except by a peristaltic or vermicular movement, resembling that which takes place in the alimentary canal; and of such there is no evidence whatever."

It is evident that Dr. Carpenter regards the contraction of an artery upon its contents, to be owing to the stimulus afforded by its distention with blood, which being expended, the vessel is ready to dilate to receive a new supply. The microscopic observation to which we are about to refer, leads the writer of this article to entertain a different view. It seems to be demonstrated by this that the pulsatory movement is a property residing in the arterial coats themselves, independent alike of the heart's action and the stimulus of the blood.

Having caught a mouse in a trap (it was quite cold and stiff when taken out), I was desirous of making some preparations of epithelium, &c. On taking out the kidneys it occurred to me to place a thin slice upon a slide for microscopic examination. The slice was made quite through the middle of the kidney, and was about one-thirtieth of an inch in thickness, just thick enough to be translucent. On placing it under the microscope, one of the largest vessels was observed in active motion, alternately contracting and dilating with evident vermicular contortions, communicating motion to the blood

corpuscles in the capillaries for a considerable distance. The movement seemed limited to the artery, and was not communicated to the coats of the capillaries, although their contents had an oscillatory motion corresponding to the contents of the artery. The phenomenon was seen for about three hours, when the observation was suspended. The motion had then considerably diminished both in extent and energy.

I was at first inclined to attribute this activity to evaporation of the watery particles from the slide, but this is insufficient to account for the regular pulsatory character of the movement. It is therefore due, in all probability, to the vital pulsations of the coats of the artery. I have not had an opportunity since that time to repeat the experiment.

The only parallel case with which I am acquainted, is recorded in Hassall's *Microscopic Anatomy*, as follows:—"On one occasion, in examining the tongue of a frog, a portion of it broke away from the remainder; this I placed between two plates of glass, and submitted to examination, when, extraordinary to say, it was perceived that the circulation was still vigorously maintained in the majority of the vessels. Anxious to know how long this circulation would be continued, but fully expecting to see it cease every moment, myself and a friend, John Coppin, Esq., of Lincoln's Inn, watched it for upwards of an hour, at the end of which time the blood still flowed onwards in many of the vessels, with scarcely abated vigor, though in others, often the larger ones, the motion had altogether ceased. The mutilated portion of the tongue was then placed in water, in which it remained during the whole of the night; the next morning it was again examined, when it was found that a tolerably active circulation still existed in several of the smaller vessels. After this observation, the further examination of the fragment was abandoned."

These observations show:—1. That the pulsation of the arteries is a property residing in the coats of those vessels, which is independent of the heart's action, though supplementary to it; and also independent of the stimulus arising from distention with blood.

2. That a peculiar propulsive force, in all probability, resides in the capillary vessels, of whose nature we are at present uninformed.

3. That one of the chief causes of the capillary circulation, is probably the pulsation of the arterial branches from which they spring.

Punctured Wound of the Liver followed by Recovery. By FREDERICK G. LEROY, M. D., Resident Surgeon of the New-York Hospital.

Wm. Craddock, æt. 27, New-York, seaman, admitted into the New-York Hospital, July 4th, 1851 (Dr. Post in attendance), with a penetrating wound of the abdomen, caused by the premature discharge of a horse pistol, from which he was endeavoring to withdraw the ramrod. The rod passed between his hands, and struck the ab-

domen a little to the right of the median line, about an inch below the common cartilage of the false ribs on that side. Upon introducing the finger, and tracing the course of the wound, the liver could be distinctly felt, and on passing its extremity over the surface of the organ, a laceration of it was detected that corresponded with the external opening. From the nature of the injury, its precise depth could not be ascertained. Patient had on at the time of the accident, a common colored shirt, with a red one beneath it; the fragment of red flannel was removed by the physician who attended him previous to his admission into the Hospital. The portions of the colored garment were supposed to have been carried in with the rod. Has vomited several times since the accident; at present complains of no pain, but has some difficulty in respiration. There was a slight venous hæmorrhage from the wounds. Pulse natural.

Treatment.—Edges approximated by means of a suture. Cold water dressing. R. Tr. opii. M. xxx. P. M. R. Pil. opii. gr. 1. q. 2 h.

July 5th.—Patient passed a comfortable night, after having taken two of the above pills. Bowels being confined, ordered an enema containing ol. terebinth $\frac{3}{4}$ s; wound covered with lint saturated in m. g. a., and empl. vesicans over this as a prophylactic. Strict diet.

July 7th.—There is slight tympanitis; the bowels remaining constipated, was directed to R. Cal. grs. ii. q. 2 h. until they were moved. Camph. cataplas. to abdomen. The calomel vomiting him after the second powder, it was discontinued: R. Haust. effervesco.

July 12th.—General condition favorable, no symptom of an urgent character having presented since the last note. At present there is no febrile action, has a natural stool, &c. The slough is separating from the edges of the wound, which is closing up with healthy granulations. To-day, removed several pieces of cotton, which upon examination proved to be the missing portions of the colored shirt.

July 20th.—Has had several paroxysms of pain over the region of the liver, and in the right shoulder, which he states to have been of a tearing character, and most intense in the evening. Respiration labored, and 27 per min. Pulse alternating between 72 and 80, without any undue excitement. R. Opiates. Camph. poultice to abdomen, and empl. vesicans., over the seat of pain; under the influence of which remedies, all the unpleasant symptoms gradually subsided.

July 23d.—Several chills have occurred in the last two days; general condition very unfavorable, countenance haggard, hot surface, labored inspiration, cough, with pain in the side. Pulse 92, frequent and hard, slight dulness on percussion. R. Tart. ant. et potass. grs. $\frac{1}{2}$ q 2 h. Empl. vesicans. to side.

July 24th.—After taking one dose of the antimonial solution, patient became so much prostrated, as to require stimulants, and upon reaction being in a great measure established, R. Pul. ipecac. gr. ss. m. g. a $\frac{3}{4}$ ss. as a substitute for the above solution. Still com-

plaints of pain in the side, and difficulty on inspiration. Auscultation reveals an indistinct crepitas. & Emplas. vesicans. over the posterior surface of the lung.

July 30th.—All the thoracic symptoms have subsided, with the exception of a slight uneasiness in the right side. Chills continue; has had as many as four in the twenty-four hours. After some of these attacks patient is very much prostrated, and at times quite flighty. For these the sulphate of quinine has been freely given, commencing with grs. x., and gradually increasing up to the present time, when he takes grs. xxv. in the day. The wound has entirely healed.

Aug. 4th.—Has had no chills for four days past. Quinine has been continued to the present date, when it is directed to be gradually diminished daily. The whole surface of the trunk is covered with suppurating boils, that occasion considerable constitutional irritation; upon their subsiding, patient's whole system seemed to undergo a marked change for the better, and he commenced gaining in flesh.

Aug. 16th.—Since last date an abscess has formed, and pointed in the original wound, opened spontaneously and gave exit to a greenish discharge, pus apparently tinged with bile; upon its ceasing, the wound again closed, and he was discharged cured.

The present case possesses a peculiar interest, from the serious nature of the wound, and the entire absence of any report of cases strictly identical with it in the different Journals, and surgical authorities that have been consulted. One of its most prominent features was the greenish discharge from the abscess, some of which was collected and placed in the hands of a chemist for analysis; but no satisfactory return could be elicited from him, although particularly requested to give it a careful examination. That this discoloration was effected by bile, is a fair conclusion, and one, I think, the history of the case justifies. What office nature performed in its happy termination, or how much should be attributed to the treatment employed, is a question for conjecture. But, that opium exerted a beneficial influence in this, is indicated by the pulse; and its efficacy in wounds of a similar nature will be allowed by all surgeons who have given it a trial. Cases of rupture of the liver occur, though they are rare, and are generally the result of fracture of the ribs, or some heavy weight passing over the body. But these lesions are not ascertained until revealed by an autopsy. A case is reported in the *Medico-Chirurgical Review*, New Series, vol. xxiv., p. 296, in which a cavalry officer was thrown from a horse, and the animal trod upon his chest with his hind feet. He survived the accident eight years, experiencing constant pleuritic attacks. Before his decease he fell under the observation of the physician who had attended him after the accident, who feeling an interest in the case, made an examination, and found a rupture of the right lobe of the liver, throughout its whole length and substance, from its anterior to its posterior border. The cicatrix was large, broad, and of a cartilaginous character; occupying the fissure beneath this, were biliary

concretions. Two cases of wounds of the liver are recorded in the case books of this hospital, though no symptom presented, by which they were recognized as such previous to death. One was that of a boatman, admitted with a penetrating wound of the abdomen, inflicted with a butcher's knife. Patient lingered twenty-two hours. Autopsy disclosed an incised wound of the left lobe of the liver, three inches in length and one and a quarter in depth. The second was a cartman, who had received a gun-shot wound of the abdomen, midway between the umbilicus and ensiform cartilage—survived the accident twenty-four hours. On making an examination, the left lobe was found to have been lacerated by the shot, and the coats of the stomach perforated.—*Med. Times.*

Results of Treatment in Thirteen Cases of Pseudarthrosis.

In the *N. Y. Med. Times* for October Dr. Watson has reported thirteen cases of pseudarthrosis, which have been treated in the New-York Hospital since 1839. The following is his summary of them: Of these cases, some were under the care of my colleagues, and some, either wholly or part of the time, under my own charge. Among my own cases, I was in one instance obliged to resort to amputation. I have in no instance, as yet, applied either the seton or the wire.

Of the whole number of cases of which I have any memoranda, one was in the humerus, two in the forearm, two in the os femoris, and eight in the bones of the leg; seven underwent operations, and six got well by other means. Of the seven that were subjected to operations, one underwent amputation and recovered; three had setons passed through the ends, all of which were also reported to have been cured; three submitted to excision, drilling, and the wire ligature; of these latter, one died, one recovered with the wire permanently imbedded in the bone, from which it could not be extracted, and the third, now six months after the operation, is still uncured. In the fatal case, as well as in the case subjected to amputation, the false joint was seated below the knee. In those that recovered after wiring, it was in the forearm; and in the cases treated by the seton, the humerus in one, the femur in another, and the tibia in another, was the seat of accident. In the cases that got well independent of operation, the false joint was, with the exception of one, situated in the bones of the leg.

MISCELLANEA.

State Medical Society.—This Society held its annual session at the capitol in Albany on the 3d, 4th, and 5th Feb. The following officers were elected for the ensuing year, viz. President, ALONZO CLARK, M. D., of New-York; Vice-Pres., J. S. SPRAGUE, M. D., Otse-

go Co.; Treasurer, PETER VAN OLINDA, M. D., Albany; Secretary, THOMAS HUN, M. D., Albany.

Censors for Southern District.—Chas. S. J. Goodrich, M. D., Brooklyn, John C. Cheesman, M. D., New-York, Wm. Rockwell, M. D. do.

Delegates to American Medical Association.—Drs. A. H. Stevens, C. S. J. Goodrich, Jas. R. Wood, Alonzo Clark, Willard Parker.

Drs. Geo. W. Norris of Philadelphia and Saml. S. Purple of New-York were elected honorary members.

The next semi-annual meeting will be held in New-York on the last Tuesday of June next, when it is hoped a large representation will be in attendance.

New-York Academy of Medicine.—The following resolutions have been officially sent us for publication. They were adopted at the adjourned meeting of the Academy, April 21st, 1852.

"Whereas, The duty of rendering medical and surgical services to the poor and destitute, *without fee or reward*, is one of universal and perpetual obligation upon every member of our liberal profession. Therefore,

"*Resolved*, That no fellow of this Academy shall be countenanced in making exclusive pretensions to benevolence by public advertisements, or private cards, circulars, or any other device 'publicly offering advice, medicines or operations to the poor gratis' either in his individual capacity, or in virtue of any office or position he may hold, in any *clinique, school, college*, or other public institution.

"*Resolved*, That these resolutions be published in the Medical Journals of the city."

New-Yorker Medicinische Monatsschrift.—This is the title of a new medical journal in the German language, which has recently made its appearance in our city. It is edited by Drs. J. Herzka, E. Krackowizer and W. Roth, and published monthly at four dollars per annum. We welcome it to our exchange list and wish for it a long and successful career—a career commensurate with the zeal and ability with which it is edited.

Canada Medical Journal.—This journal has sprung up since the discontinuance of the British American Medical and Physical Journal. It is edited by Drs. R. L. Macdonnell and A. H. David, and

published monthly at Montreal. We have ordered it placed upon our exchange list and shall welcome its visits with pleasure.

East Tennessee Record of Medicine and Surgery.—This quarterly journal is edited by Frank A. Ramsey, M. D., and is published under the auspices of the East Tennessee Medical Society, at Knoxville. We commend it to the confidence and support of the profession.

British American Medical and Physical Journal.—It is, with feelings of much regret that we have to announce the discontinuance of this valuable Journal. We have received a circular from its editor, Dr. Hall, containing an exhibit of its financial condition which shows conclusively that its delinquent subscribers must consider themselves the principal cause of this event. Non-paying subscribers are poisonous to medical journals, prompt remittance of their indebtedness is the only prophylactic.

OBITUARY.

DEATH OF DR. JAMES H. ROGERS—At San Francisco on the 30th January last, aged 50 years. He was formerly of this city and at the time of his death health officer of the port of San Francisco.

DEATH OF PROF. W. R. GRANT—In Philadelphia in March last. He was professor of anatomy in the Pennsylvania Medical College, a man of high professional and moral worth, and much esteemed by all who knew him.

DEATH OF DR. W. P. HORT—Recently in New Orleans, aged 53 years. He was an able writer and contributed largely to medical literature. He was a member of the Board of Health of that city, and from 1837 to the time of his decease he held the appointment of Assayer to the Branch Mint in New Orleans.

DEATH OF DR. A. J. RAND.—At Seamen's Retreat, Staten Island on the 9th of March, after a brief illness, A. Judson Rand, M. D., one of the physicians to the hospital, in the 34th year of his age. Dr. Rand was a graduate of the College of Physicians and Surgeons of the class of '47-'48. Possessing a rare combination of the noblest qualities of mind and heart—the one stored with varied learning, the fruit of long and patient study—the other, a well-spring of generous emotions, impelling him ever to sacrifices of benevolence—he was pre-eminently fitted for the station he filled.

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ERRATA.

- Page 169, 6th line from top, for "Bricht'a" read "Bichat'a."
 " 168, 2d " " " bottom, for "Corte" read "Crete."
 " 169, 4th " " " top, for "Ventoras" read "Ventores."
 " " 5th " " " " "Assimboins" read "Aminneboins."
 " 171, 15th " " " " "putrefaction" read "putrefactive."
 " 173, 18th " " " " "homœpathists" read "homœopathists."
 " 176, 4th " " " bottom, for "ostro-sarcoma" read "osteo-sarcoma."
 " 181, 13th " " " top for "Kentucky" read "Keene."
 " 231, 3d " " " bottom, for "Abernethy" read "Abernetha."

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